File 2.5

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The Trusted Integrator for Sustainable Solutions

VIA FEDEX

February 24, 2010

Ms. Lynn Vogel, Case Manager
New Jersey Department of Environmental Protection
Bureau of Case Management
401 E. State St.
5th Floor, PO Box 028
Trenton, NJ 08625

Mr. Ken Stoller, Pesticides and Toxic Substances Branch Chief
U.S. Environmental Protection Agency, Region 2
2890 Woodbridge Avenue (MS-105)
Edison, NJ 08837-3679

Re: Hatco Site
Fords, New Jersey
Program Interest Number G000003943
Revised Interim Remedial Measures Remedial Action Workplan and Engineering and Monitoring Control Plan for LNAPL Recovery

Dear Ms. Vogel and Mr. Stoller:

Based on our February 18, 2010 response to the U.S. Environmental Protection Agency's (USEPA) letter dated 8 December 2009 and the New Jersey Department of Environmental Protection (NJDEP) letter dated 25 November 2009, Weston Solutions, Inc. (Weston®) is pleased to provide you with the attached Revised Interim Remedial Measures (IRM) Remedial Action Workplan (RAWP) associated with the Light Non-Aqueous Phase Liquid (LNAPL) Recovery portion of the remediation at the Hatco site. This Revised IRM RAWP also functions as the USEPA-required Engineering and Monitoring Control Plan for the LNAPL Recovery portion of the remediation at the Hatco site. As discussed, please provide an expedited review and approval of this Revised IRM RAWP within 30 calendar days so that we may proceed with our design and permitting phase.

If you have any questions, please do not hesitate to call me at (732) 417-5834.

Very truly yours,

WESTON SOLUTIONS, INC.

Daniel R. Kopcow, P.E., PMP
Project Manager

cc: J. Mitch (Woodbridge Township)
P. Meyer, S. Castles (Hatco/Chemtura)
V. Puranapanda, S. Piatkowski, C. Stella, G. Kramer (ACE)
G. Nichols (Drinker, Biddle & Reath)
R. Craig (Weston)
File No. 2.5

REVISED
INTERIM REMEDIAL MEASURE
REMEDIAL ACTION WORK PLAN FOR
LIGHT NON-AQUEOUS PHASE LIQUID (LNAPL) REMOVAL
HATCO CORPORATION SITE
FORDS, NEW JERSEY

February 2010

Prepared by:

WESTON SOLUTIONS

The Trusted Integrator for Sustainable Solutions

205 Campus Drive
Edison, New Jersey 08837

Work Order No. 13067.001.002

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SECTION 1

INTRODUCTION

1. INTRODUCTION

On August 18, 2005, Weston Solutions, Inc. (Weston®) submitted a Consolidated Remedial Action Work Plan and Implementation Schedule (Consolidated RAWP) to the U.S. Environmental Protection Agency (USEPA) and the New Jersey Department of Environmental Protection (NJDEP) for the Hatco Corporation site located on King George Post Rd in Fords, New Jersey (the Site). The Consolidated RAWP (WESTON 2005) was based on a Draft RAWP prepared by URS Corporation on behalf of Hatco and responded to comments provided by USEPA and NJDEP in conditional approval letters dated March 30, 2005 and February 17, 2005, respectively.

As described in the Consolidated RAWP, Weston proposed to perform LNAPL recovery via passive recovery trenches followed by excavation of site soils containing PCBs at concentrations exceeding 500 mg/kg dry weight. However, during a meeting on October 3, 2006, USEPA conveyed to Weston that it was their intention that the LNAPL should be excavated contemporaneously with the impacted soils, rather than waiting the estimated 14 years to remove it via passive recovery trenches.

With the assumption that soil excavation would be the preferred alternative based on the USEPA directive made during the October 3, 2006 meeting, Weston conducted a pilot excavation study in December 2007 to investigate the types of working conditions that would be encountered. Specifically, the initial pilot study was intended to evaluate excavation dewatering rates, methods and treatment and also material handling issues. The initial pilot excavation study consisted of three test pits located in coarse-grained soil within the proposed area of LNAPL remediation. Soil sampling performed during the first pilot study showed that the LNAPL readily drained from coarse-grained soils and that the drained soils contain PCB concentrations substantially less than the 500 mg/kg dry weight cleanup goal. As a result, in-situ removal of LNAPL from the coarse-grained soils would be expected to meet the approved cleanup goal. Because the initial pilot study focused predominately on the coarse-grained soils (where excavation dewatering would be of greatest concern), no data were generated regarding how well LNAPL would be expected to drain from finer-grained soils. The results of the December 2007 pilot study were provided to NJDEP and USEPA in a letter report dated May 8, 2008 (WESTON 2008a).

A second pilot study was conducted between June 30 and July 2, 2008 to evaluate the extent to which LNAPL drains from fine-grained soils within the proposed area of LNAPL remediation. The second pilot study determined that only minor amounts of LNAPL are present in fine-grained soils (restricted to root cavities) and that, PCB concentrations in these soils were well below the cleanup goal. Significant amounts of mobile LNAPL were observed only in coarse-grained soils under both confined and unconfined conditions. As was observed during the first pilot study, the LNAPL was found to drain readily from the sand, and the drained soil contained PCBs at concentrations substantially lower than the cleanup goal. Based on these observations, it has been concluded that the PCBs are confined to the mobile LNAPL and that the mobile LNAPL is largely confined to the coarse-grained soils, from which it readily drains. The results of the second pilot study were provided to NJDEP and USEPA in a letter report dated October 29, 2008 (WESTON 2008b)

Based on this new understanding of LNAPL distribution and migration, the most effective method of achieving the PCB cleanup goal is removal of the mobile LNAPL via pumping (i.e., active LNAPL recovery). Excavation would not be an effective means of removing the LNAPL, especially in southern areas of the site where it exists under confined conditions, because it would involve the removal and replacement of large amounts of soil that already meet the cleanup goal and also because it would potentially result in significant spreading of the mobile LNAPL when the confining clay/silt unit is breached. With a pumping system, removal of the mobile LNAPL can be more easily controlled, even under confined conditions, thereby minimizing any spreading.

Analytical modeling was conducted to simulate LNAPL recovery and evaluate potential LNAPL recovery systems. Based on the results of the modeling, a proposed LNAPL recovery system consisting of 17 extraction wells and two recovery trenches (one active and one passive) was designed. An average LNAPL recovery rate of 2.5 gpd was estimated for each recovery well based on a pilot test performed by URS; which results in a total system recovery rate of approximately 50 gpd. A conservative estimate of 3 to 5 years for removal of the LNAPL was calculated based on the estimated recovery rate and the calculated volume of recoverable LNAPL at the Site. The results of the modeling study were provided to NJDEP and USEPA in a letter report dated January 22, 2009 (WESTON 2009).

The results of the two pilot excavation studies and the LNAPL modeling and recovery system design were submitted to NJDEP and USEPA in series of status reports in 2008 and early 2009. A meeting was held with NJDEP and USEPA on January 29, 2009 to discuss the results of these studies and request that USEPA reconsider its position that all LNAPL at the site should be excavated. On May 28, 2009, USEPA issued a letter to Weston rejecting the request to reconsider and reiterated its intention that the LNAPL should be excavated. USEPA did acknowledge that LNAPL excavation would not be feasible beneath existing buildings and infrastructure and allowed for active LNAPL recovery in those areas where excavation is not feasible. NJDEP issued a letter dated June 15, 2009 concurring with USEPA and required that Weston submit an addendum (Addendum 3) to the Consolidated RAWP and an implementation schedule detailing the revised remediation approach by August 28, 2009.

In an effort to expedite the start of remedial activities at the site, NJDEP and USEPA agreed that Weston could submit an Interim Remedial Measures (IRM) plan for the recovery system designed to remove LNAPL near existing infrastructure, where excavation is not deemed feasible. This Revised IRM plan is being submitted to NJDEP per that agreement. However, it should be noted that, as agreed upon by NJDEP and USEPA, the complete design for the remediation has not been completed yet. Weston has prepared this document in response to NJDEP's request with the understanding that a complete design and permitting will be completed following receipt of regulatory approval of this document. In response to EPA's and NJDEP's request, Weston will provide the design details of the IRM in a subsequent progress report once they are complete. These design details will be provided for informational purposes only and will not require review and approval by either EPA or NJDEP prior to implementation.

The objective of this IRM is to remove LNAPL containing PCBs from areas of the Hatco site where excavation of this material is not feasible due to the presence of existing infrastructure or where excavation would adversely impact Hatco's operations. Based on the results of the two pilot studies, removal of the LNAPL is expected to reduce soil PCB concentrations within the

LNAPL plume to below the site-specific cleanup goal of 500 mg/kg dry weight. The LNAPL thickness will be reduced to "non-noticeable" in accordance with the New Jersey Ground Water Quality Standards (N.J.A.C. 7:9-1 et. seq.). The metric for "non noticeable" is as follows:

> A bailer is placed in the well. When the bailer is removed, there is no evidence of free product on the inside or outside of the bailer or on the water surface.

It should be noted that "dry weight" analysis will be used to evaluate PCB concentrations in soil samples in accordance with 40 CFR 761.3. However, for multiphase media (LNAPL mixed with soil), the Applicability section (40 CFR 761.1 b(4)) describes how each material phase should be tested for PCB. For non-liquid PCB materials (including soil), the dry weight basis will be used (i), but for liquid PCB materials (including water or NAPL), the wet weight basis will be used (ii). 40 CFR 761.3 provides definitions for liquid phase and non-liquid phase materials. In short, the paint filter test is used to differentiate between the two. Weston will perform a paint filter test on an LNAPL sample from the Hatco site to confirm that the LNAPL is considered a liquid-phase material under TSCA, but we anticipate that it will fall under liquid phase PCB. Because the soil and LNAPL containing PCBs at the Hatco site are co-located, we have a multiphase material. Section (iii) states that multiphase materials (those containing both liquid and non-liquid phases) shall be separated and analyzed as separate phases. So the non-liquid phase will be analyzed by dry weight methods and the liquid phase will be analyzed by the wet weight method.

SECTION 2

SITE DESCRIPTION

2. SITE DESCRIPTION

The Site is an 80-acre property located off of King George Post Road in Fords, New Jersey; of which approximately 25 acres is used as a chemical manufacturing facility that has been in operation since about 1959 (Figure 1). Products manufactured at the facility have changed over time from a wide variety of specialty chemicals and lubricants to the present process that produces specialty plasticizers and lubricants. During the 1960s, some of these manufacturing operations involved the use of PCB-containing heat transfer fluids. The use of PCBs was discontinued between 1966 and 1970 (Dan Raviv Associates 1993).

The Site is underlain by a complex sequence of interbedded sand, silt and clay layers. In general, the top 10 feet (ft) is composed of fine-grained sand, silt and clay fill that is underlain by an approximately 10-foot-thick layer of poorly sorted sand with minor discontinuous silt and clay layers. This upper sand layer is underlain by a continuous layer of gray clay that is 2-8 ft thick. The clay layer is underlain by a second layer of sand and silty sand that extends down to the bedrock surface at a depth of about 40-50 ft (Dan Raviv Associates 1993).

Groundwater is found at a depth of between 3 and 15 ft below grade in the fill and upper sand layers. In general, groundwater is deeper in the northern and eastern portions of the site and becomes shallower to the west and south. Groundwater is unconfined in the northern portion of the site but transitions to confined conditions in southern areas. Groundwater flow is generally to the south where it discharges to a large wetland south of Industrial Avenue. However, there is a minor component of flow to the west, toward smaller wetland areas. The hydraulic conductivity of the upper sand layer ranges from 20 to 70 ft/day based on a pumping test conducted at the Site. The overlying sand, silt and clay fill has a hydraulic conductivity of less than 1 ft/day based on slug tests. The groundwater gradient for the shallow zone is approximately 0.01 ft/ft (Dan Raviv Associates 1993).

2.1 LNAPL CHARACTERISTICS AND OCCURRENCE

Extensive site investigation work performed by various consultants since the early 1990s defined an area containing LNAPL that extends from the vicinity of the main production area, south towards Industrial Avenue, terminating north of the former lagoons.

Weston conducted an extensive soil boring program using direct-push methods between April and September 2007 to better define the area of LNAPL and soil exceeding the 500 mg/kg cleanup goal. Previous testing of LNAPL collected from monitoring wells and manholes had determined that the LNAPL contained PCBs well in excess of 500 mg/kg. Thus, the Geoprobe sampling focused on the perimeter of the LNAPL plume and other known or suspected PCB hotspots not related to the main LNAPL plume. Of the more than 200 samples taken during the delineation assessment, only a few were collected from LNAPL-containing soils. Because the LNAPL was known to contain PCBs at concentrations greater than 500 mg/kg, that sampling program focused on sampling soils above, below and adjacent to the observed LNAPL layer to define the extent of the ancillary soil contamination. It is important to note that of the more than 200 samples analyzed for PCBs, only 33 were found to contain PCBs greater than 500 mg/kg dry weight. And of these 33 samples, about half were collected from locations within other areas of concern (muck areas, former ponds, etc) and thus the exceedances are not related to the presence of LNAPL. Free liquids (groundwater and/or LNAPL) were not typically encountered in the soil samples during processing, however; when they were encountered, they were not drained off or decanted in any way either in the field or at the laboratory during sample processing and analysis.

The results of the 2007 soil investigation were provided to NJDEP in a 2007 Data Progress Report dated December 17, 2008 (WESTON 2008c). Based on that extensive data set, the LNAPL area is approximately 800 ft long and varies in width from 100 ft to nearly 400 ft (Figure 2). Weston performed a thorough review of historical site boring logs and refined the extent of the LNAPL plume; the revised plume extent is depicted on all figures submitted as part of this Revised IRM Plan. Specific plume configuration revisions are discussed in Section 3.1, below. The source of the LNAPL is not definitively known, nor is the date or volume of the initial release(s). Based on distribution of the LNAPL, it is likely that there were historical releases within the Ester 1 Tank Farm, the Acid Tank Farm, and/or the Main Production Area. These areas overlie the portion of the aquifer where unconfined conditions predominate, and therefore any releases from these areas could reach the water table and, as they migrate to the south and beneath the confining unit, transition to confined conditions.

Testing of LNAPL collected from five monitoring wells within the plume has shown that it consists of a mixture of phthalate esters, ketones, and plasticizers with a specific gravity ranging from 0.92 to 0.97. The viscosity of the LNAPL is generally low, ranging from about 15 to 51 centistokes (cSt) at 20 degrees centigrade, with an average of about 30 cSt. The surface tension of the LNAPL ranges from 32 to 35 dynes/cm. The interfacial tension ranges from 17 to 35 dynes/cm. Analytical and physical testing of LNAPL samples were summarized in Attachment 1, Table 1 of the first pilot study report (WESTON 2008a).

The Remedial Investigation Report (Dan Raviv 1993) and the Consolidated Remedial Action Workplan (Weston, 2005) include a detailed discussion of the various components of the LNAPL and their relationship to dissolved contaminant concentrations in groundwater. The primary constituents of the LNAPL include a wide variety of phthalate compounds including bis(2-ethylhexl) phthalate, and di-n-octylphthalate, as well as gasoline constituents (benzene, toluene, ethylbenzene and xylene). Chlorinated solvents (trichloroethene and its breakdown products) are also found in the LNAPL at some locations.

Several rounds of LNAPL fingerprint and analytical samples have been collected from various monitoring well and temporary well points since 1993, including two rounds of samples collected by Weston (2006 and 2007). Tabulated sample data is provided in Attachment 1, and includes all historic and Weston analytical data for the LNAPL.

The LNAPL composition is fairly consistent across the across the site with regard to the primary constituents (PCBs and phthalates) but the subsidiary compounds (gasoline constituents and chlorinated solvents) vary somewhat with no discernable pattern. Figure 3 provides the distribution of LNAPL data across the site. Constituent contaminants (and concentration range) are provided below:

- Bis(2-ethylhexyl)phthalate (430 to 510,000 mg/kg)

- Various other phthalates (non-detect to 230,000 mg/kg)
- Naphthalene (non-detect to 378 mg/kg)
- PCBs (non-detect to 15,000* mg/kg)
- Benzene (non-detect to 2650 mg/kg)
- Toluene (non-detect to 5690 mg/kg)
- Ethylbenzene (non-detect to 42 mg/kg)
- Total xylenes (non-detect to 57,000 mg/kg)
- PCE (non-detect to 35 mg/kg)
- TCE (non-detect to 320 mg/kg)

*One statistical outlier is discussed below

The Consolidated Remedial Action Workplan includes a detailed analysis of the relationship between the LNAPL and the dissolved constituents in groundwater and concludes that the predominant source of dissolved benzene, PCBs and bis(2-ethylhexl) phthalate in groundwater is likely the LNAPL.

The combination of physical and chemical characteristics of the LNAPL found at the Hatco site make it highly unique. Most LNAPL encountered in environmental investigations are petroleum- based (gasoline, fuel oil, lubricating oils, etc). The LNAPL found at the Hatco site however is composed of phthalates and other plasticizers which significantly affect how the LNAPL behaves in the subsurface (WESTON 2008a). The relatively high specific gravity (very close to water) and low viscosity and surface tension allowed the LNAPL to flow easily through the subsurface. This explains why the LNAPL is spread over such a wide area of the site in a thin layer (refer to bail down test results discussed below). It also explains why the LNAPL does not adhere to the soil, but instead drains freely from excavated soils with little residual. Although the LNAPL is mobile within the subsurface, historical monitoring of the LNAPL plume since the early 1990s suggests that it has reached equilibrium with the groundwater system and is no longer migrating.

The LNAPL was found to contain PCBs at concentrations as high as 15,000 ppm. Note that one LNAPL sample collected in September 1994 from monitoring well MW-31S contained Aroclor-1248 at 90,000 mg/kg, however because LNAPL from that same well contained PCB concentrations ranging from 1200 to 1400 mg/kg in April and May 1994, this sample appears to be a statistical outlier. No information regarding sample methodology or site conditions could be found to facilitate a more detailed review of potential causes for this variation. The fact that the

LNAPL contains PCBs suggests that the release(s) must have occurred sometime during the 1960s, when PCBs were in use at the facility. The age of the plume would suggest that it has likely reached equilibrium with the hydrologic system and is not expanding or moving. Further evidence of this is a comparison of investigation results from Woodward Clyde (1995) and Weston (2007); which show that the LNAPL distribution has not significantly changed over a 12-year time period (Woodward Clyde 1998; WESTON 2008c). Table 1 of this Revised Plan provides this comparison.

Product bail down tests performed on several monitoring wells have shown that the thickness of mobile LNAPL within the formation is about 0.1 to 0.3 ft. Groundwater fluctuation at the site has been estimated to be as much as 3 to 4 ft based on historical water level monitoring. The observed smear zone, based on Cone Penetrometer Test UV Fluorescence testing, ranges from 3 to 6 ft thick in most areas of the plume. The Cone Penetrometer only provides qualitative results however and it is believed that the smear zone observed using this technique is related to relatively low concentrations of VOCs and not LNAPL containing PCB (WESTON 2008b).

2.2 UPDATED LNAPL CONCEPTUAL SITE MODEL

The findings from the pilot test excavations within the LNAPL plume were not consistent with the original Conceptual Site Model as described in the Consolidated RAWP. It was clear from the observations at each test pit, as well as from the laboratory results, that the mobile LNAPL is found only in coarse-grained sandy deposits (WESTON 2008b). Although the LNAPL may have penetrated into the fine-grained silt and clay layers along root cavities, the volume of this material is very small and the PCB concentrations remain well below the 500 mg/kg dry weight cleanup goal. In addition, it was confirmed that the LNAPL readily drains from the sandy soils leaving residual PCB concentrations of less than 100 mg/kg, also well below the cleanup goal of 500 mg/kg dry weight. Based on these findings, it is apparent that the PCBs are confined almost entirely to the LNAPL and that removal of the mobile LNAPL will result in attainment of the cleanup goal (WESTON 2008b).

It is believed that the source of the LNAPL was historical releases within the Ester 1 Tank Farm, the Acid Tank Farm, and/or the Main Production Area based on the distribution of the LNAPL

(WESTON 2005). These areas overlie the portion of the aquifer where unconfined conditions predominate, and therefore any releases from these areas could reach the water table. Once the LNAPL reached the water table, it followed the coarser deposits of the shallow sand and migrated to the south, transitioning to confined conditions in the vicinity of the Effluent Pre-Treatment (EPT) Building.

Mobile LNAPL is confined to the upper sandy layer; which is found at a depth of about 10-15 ft bgs across the site. The upper sandy layer is deeper in northern portions of the site (near the main tank farm and Hatco manufacturing areas) and shallower in the southern (undeveloped) portion of the Site and is approximately 10 ft thick (Dan Raviv 1993). Fluids in the shallow sandy layer exist under unconfined conditions in the northern portion of the Site, but transition to confined conditions to the south. The transition from unconfined to confined conditions varies seasonally and from year to year based on groundwater elevation, but is located in the general vicinity of the EPT Building. Approximately 50% of the LNAPL plume exists under confined conditions.

Groundwater flow in the shallow sandy layer is to the south with a hydraulic gradient of approximately 0.01 ft/ft. The hydraulic conductivity of the shallow sand ranges from 20 ft/day to 70 ft/day based on a pumping test conducted during the Remedial Investigation (RI). The average hydraulic conductivity is closer to the low end of the measured range (35 ft/day). The confined conditions found in the southern portion of the Site are caused by the overlying silt and clay layer. The hydraulic conductivity of the silt and clay layer is approximately 0.1 ft/day based on slug tests conducted during the Remedial Investigation (Dan Raviv 1993).

Physical properties of the LNAPL were based on samples collected from five monitoring wells within the plume. The LNAPL consists of a mixture of phthalate esters, ketones, and plasticizers with an average specific gravity of 0.95. The average viscosity of the LNAPL is 28.5 cp. The average surface tension of the LNAPL is 33.2 dynes/cm. The average interfacial tension is 23 dynes/cm (WESTON 2008a).

LNAPL thickness measurements in monitoring wells made in 2006 and 2007 throughout the plume showed that the observed product thickness ranged from less than 0.5 foot to about 6 ft. Most wells within the center of the plume contained between 1 foot and 3 ft of product. The 6-ft measurement was from a monitoring well located near the southern end of the LNAPL plume where confined conditions are strongest (approximately 4 ft of piezometric head exists above the sand layer in this area). This suggests that the observed LNAPL thickness over most of the plume is on the order of less than 1 foot to approximately 2 ft (WESTON 2008c).

Bail down tests performed on several monitoring wells have shown that the true thickness of mobile LNAPL within the formation is about 0.1 to 0.3 foot (or about 10% of the observed thickness in monitoring wells). The age of the plume has been estimated at approximately 40 years based on the presence of PCBs in the LNAPL (the use of PCBs was discontinued by 1970 according to Hatco records); thus, it is assumed that the LNAPL has reached hydraulic equilibrium and that the LNAPL saturation distribution is stable.

The LNAPL saturated hydraulic conductivity was estimated by applying the Bouwer and Rice (1976) method to the bail down test data. The average LNAPL saturated hydraulic conductivity was calculated to be approximately 2 ft/day.

Based on this updated Conceptual Site Model, removal of the mobile LNAPL via pumping is an effective method of achieving the PCB cleanup goal. As such, LNAPL removal will be employed in areas of the site where excavation is not feasible due to the presence of existing infrastructure or where excavation would adversely impact Hatco's normal operations.

Table 1
Ground Water and LNAPL Levels Over Time
Hatco Corporation Site
Fords, New Jersey

					Ground Water Elevation (ft. mean sea level, corrected for LNAPL)																																				
	Diam. (in)	Top of Screen (bg)	Bottom of Screen (bg)	Top of Casing (ft.msl)	1/14/92	4/28/92	5/14/92	7/8/92	7/8/1992 LNAPL	10/19/92	10/19/1992 LNAPL	4/13/94	4/13/1994 LNAPL	5/27/94	5/27/1994 LNALP	6/13/94	6/13/1994 LNAPL	7/18/94	7/18/1994 LNAPL	8/9/94	8/9/1994 LNAPL	10/11/94	10/11/1994 LNAPL	11/8/94	11/8/1994 LNAPL	11/14/94	11/14/1994 LNAPL	12/5/94	12/5/1994 LNAPL	1/6/95	1/6/1995 LNAPL	1/8/98	1/8/1998 LNAPL	1/21/98	1/21/1998 LNAPL	February 2006	Feb 2006 LNAPL	July 2006	July 2006 LNAPL	February 2007	Feb 2007 LNAPL
MW- 1 S	2	4.6	19.6	17.29	14.34	13.85	13.87	13.77	0.00	13.57	0.00															13.92	0.00									14.54	0.00	--	--	--	--
MW- 1 D	2	29.0	39.0	17.93	14.97	14.84	14.74	14.72	0.00	14.15	0.00															15.54	0.00									15.44	0.00	--	--	--	--
MW- 2 S	2	4.3	24.3	25.81	19.41	19.29	19.24	18.96	0.00	18.72	0.00															18.49	0.00									21.42	0.00	--	--	--	--
MW- 2 D	2	26.7	36.7	26.04	18.92	18.90	18.69	18.49	0.00	17.88	0.00															18.07										19.59	0.00	--	--	--	--
MW- 3 S	2	18.0	22.0	48.76	36.23	36.31	36.48	36.25	0.00	35.21	0.00															35.54	0.00									37.27	0.00	--	--	--	--
MW- 3 D	2	29.3	39.3	47.78	35.48	35.62	35.67	35.39	0.00	34.44	0.00															34.72	0.00									36.23	0.00	--	--	--	--
MW- 4 S	2	12.5	22.5	35.39	26.51	26.49	26.54	26.25	0.00	25.35	0.00															25.39	0.00									--		--	--	--	--
MW- 4 D	4	40.5	50.5	36.13			26.66	26.42	0.00	25.71	0.00															25.70	0.00									--		--	--	--	--
MW- 5 S	4	2.1	17.1	20.94	15.93	15.60	15.55	15.54	0.00	15.21	0.00															15.66	0.00									--		--	--	--	--
MW- 6 S	4	3.5	18.5	19.45	15.10	14.70	14.66	14.63	0.00	14.50	0.00															15.02	0.00									--		14.66	0.00	--	--
MW- 7 S	4	3.0	18.0	20.87	13.55	13.32	13.50	13.39	0.00	13.07	0.00															13.43	0.00									--		13.02	0.00	--	--
MW- 7 D	4	30.0	40.0	19.56			13.57	13.61	0.00	13.27	0.00															13.67	0.00									--		--		--	--
MW- 8 S	4	3.0	18.0	24.07	20.47	20.02	21.06	19.91	0.00	19.41	0.00															19.45	TR					19.91	0.00	19.42	0.00	20.05	0.01	19.69	0.00	--	--
MW- 9 S	sealed	9.0	24.0	28.74	25.94	26.15	25.47	25.29	0.00	25.11	0.00																0.00									--		--		--	--
MW- 9 SR	4	2.5	12.5	27.20							0.00															22.86	0.00							23.69	TR	24.1	0.00	--		--	--
MW- 9 D	4	34.0	44.0	27.26							0.00															20.41	0.00									22.99	0.00	--		--	--
MW- 10 S	4	8.1	23.1	28.30	24.06	23.56	23.62	23.38	0.00	23.24	0.00															22.87	0.00							DRY	0.00	24.92	0.00	--		--	--
MW- 11 S	6	6.8	22.0	26.89			19.91	19.60	0.00	19.19	0.00																0.00									3.93	0.00	--		--	--
MW- 12 S	4	26.1	46.3	55.82			32.13	31.85	0.00	31.12	0.00															31.16	0.00									32.77	0.00	--		--	--
MW- 13 S	4	3.0	18.0	40.66			26.58	26.34	0.00	26.02	0.00															25.57	0.00									26.66	0.00	--		--	--
MW- 14 S	4	4.0	19.0	44.13			32.46	***	0.00	28.82	0.00															28.25	0.00							29.06		29.87	0.00	--		--	--
MW- 15 S	3	13.0	18.0	42.17			26.96	26.84	0.01	26.09	0.19															25.74	0.90									--		--		37.36	0.00
MW- 15 SR	4	3.0	7.5	41.96							0.00										0.00	34.95	0.00			35.11	0.00					DRY		DRY		--		--		--	
MW- 16 S	4	20.5	30.5	35.59			26.70	26.53	0.00	25.36	0.00															25.45	0.00		0.00		0.00					26.69		27.74	0.00	25.95	0.00
MW- 16 D	4	35.5	45.5	35.98			25.86	25.65	0.00	24.93	0.00															24.92	0.00									--		--		25.28	0.00
MW- 17 S	4	3.0	18.0	28.52			23.68	23.46	0.05	23.47	0.03															23.23	0.04					24.45	0.23	24.08	0.26	23.09	1.75	23.47	0.35	--	
MW- 18 S	4	3.0	18.0	35.62			25.89	25.65	0.00	24.93	0.00															24.66	0.00									25.58	0.00	--		25.00	0.00
MW- 19 S	4	7.0	22.0	38.07			26.67	26.48	0.00	25.20	0.00															25.54	0.00		0.00		0.00					25.72	0.00	25.86	0.00	25.92	0.00
MW- 20 S	4	3.0	18.0	38.82						30.37	0.00															29.99	0.00							31.09	0.00	31.67	0.00	--		--	
MW- 21 S	4	3.0	13.0	37.18						28.72	0.00															37.18	0.00						0.00	32.61	0.00	33.12	0.00	--		--	
MW- 22 S	4	2.5	12.5	29.22						25.57	0.00															25.66	TR							26.31	0.00	26.19	0.00	--		--	
MW- 23 S	4	10.0	30.0	42.26																							0.00									37.50	0.00	36.94	0.02	26.21	0.00
MW- 24 S	4	2.0	8.0	41.73																							0.00							33.06	0.00	26.61	0.96	33.34	0.00	33.36	0.00
MW- 24 ST	4	0.0	5.0	41.85																							0.00									--		--	--	--	
MW- 25 S	4	6.0	16.0	41.03																							0.00							26.36	1.16	32.61	0.00	--	--	24.86	1.31
MW- 26 S	4	2.0	8.0	41.55																	0.00	37.16	0.03			27.20	0.00		0.00	37.36	0.11			36.88	0.00	37.11	0.09	36.93	0.01	36.81	0.07
MW- 27 S	4	3.0	10.0	42.84																							0.00									--		--	--	--	
MW- 28 S	4	12.0	22.0	40.98																						25.66	1.52									--		24.27	1.41	--	
MW- 29 S	4	3.0	13.0	42.13																	0.00	36.62	0.00			36.56	0.00									35.52	0.00	--	--	34.86	0.00
MW- 30 S	4	8.0	18.0	39.15																						25.64	1.98					26.35		26.32		25.10	1.79	24.34	1.86	24.34	1.83
MW- 31 S	4	9.0	19.0	41.30																						25.59	2.47					26.90		26.24		24.87	2.00	23.95	2.22	24.15	1.98
MW- 32 S	4	9.0	19.0	40.46																						25.54	3.00					26.35		26.22		24.97	1.90	23.75	1.91	24.09	2.07
MW- 33 D	4	15.0	25.0	36.69																						25.60	0.00									26.65	0.00	--	--	25.92	0.00
MW- 34 D	4	15.0	24.0	33.00																						25.61	0.00									26.72	0.00	--	--	25.97	0.00
MW- 35 S	4	5.5	8.0	34.58																						25.63	0.00							26.39	0.00	26.96	TR	26.27	0.06	26.33	0.02
MW- 36 S	4	11.5	21.5	39.54																						25.65	0.00					26.43	0.00	24.29	0.00	26.71	0.00	24.73	1.86	26.00	0.00
MW- 37 S	4	3.0	8.0	42.07																						25.82	0.00							31.41	0.00	28.38	0.00	--	--	27.93	0.00
MW-38 S				not avail.																																		--	--	--	
MW-41 S	2			38.12																																33.91	0.00	33.78	0.00	23.98	0.00
MW-42 S	2			29.23																																25.48	0.00	24.72	0.00	15.09	0.00
MW-43 S	2			29.36																																21.86	2.47	22.25	0.89	--	
MW-44 S	2			not avail.																																no elev	0.00	--	--	5.82*	0.00
MW-45 S	2			23.42																																22.42	0.00	--	--	--	
MW-46 S				20.68																																--		--	--	--	
MW-47 S				17.45																																--		--	--	--	
MW-48 S				20.36																																--		16.71	0.00	--	
MW-49 S				23.31																																--		19.33	0.00	--	
MW-50 S				26.29																																14.69	3.05	12.70	4.48	--	
MW-51 S				13.88																																--		--	--	--	
MW-52 S				25.19																																16.09	6.12	15.52	6.10	--	
MW-53 S				not avail.																																no elev	0.00	--	--	12.19*	0.00
MW-54 S				not avail.																																no elev	0.00	--	--	--	
MW-55 S				18.40																																--		--	--	--	
TF1/P 1	2	1.0	2.5	42.29								39.25	0.00	39.26	0.00	39.28	0.00	39.23	0.00	39.23	0.00	39.19	0.00	39.10	0.00			39.20	0.00	39.17	0.00	38.63	0.79	39.19	0.02	39.07	0.00	39.09	0.08	39.16	0.02
TF1/P 2	2	0.5	2.0	42.3								40.13	0.00	40.12	0.00	40.11	0.00	39.88	0.00	39.91	0.00	39.64	0.00	39.50	0.00			39.84	0.00	39.73	0.00			40.01	0.05	39.28	0.91	39.70	0.75	39.63	0.49
TF1/P 3	2	0.5	2.5	41.96								39.94	0.00	38.94	0.00	39.67	0.00	39.47	0.00	39.54	0.00	38.46	0.28	38.39	0.17			39.53	0.00	39.28	0.02	LNAPL	1.89	LNAPL	1.76	--		--	--	--	
TF1/P 4	2	2.0	12.0	39.81								28.11	0.00	27.94	0.00	29.60	0.00	28.70	0.00	27.38	0.00	27.16	0.00	27.14	0.00			27.18	0.00	27.16	0.00	27.95	0.00	dry		28.30	0.14	28.33	0.00	28.09	0.02
TF1/P 5	2	1.5	11.5	42.08								36.71	0.00	36.61	0.00	36.68	0.00	37.22	0.00	36.79	0.00	36.09	0.00	36.10	0.00			35.82	0.00	35.48	1.16		>1	35.10	0.17	33.29	1.64	34.65	0.24	33.82	0.44
TF1/P 6	2	1.5	4.0	42.09								38.39	0.00	dry	0.00	38.30	0.00	dry	0.00	dry	0.00	dry	0.00	dry	0.00			dry	0.00	dry	0.00					--		--	--	38.25	0.00
TF1/P 7	2	1.5	4.0	41.35								41.14	0.00	40.75	0.00	40.53	0.00	40.01	0.00	40.04	0.00	40.55	0.00	38.86	0.00			39.06	0.00	39.63	0.00			39.28	0.00	--		--	--	--	
TF1/P 8	2	0.5	2.0	41.94								39.89	0.00	39.44	0.00	39.52	0.01	39.22	0.03	39.22	TR	38.62	0.28	38.62	0.25			38.52	0.26	38.48	0.30	39.18	1.06	38.58	0.52	38.08	0.11	38.32	1.11	38.29	0.95
TF1/P 9	2	0.0	5.8	43.88												37.98	0.00	37.73	0.01	37.42	TR	36.90	0.02	36.68	0.01			36.58	0.00	36.37	0.00	LNAPL	0.30	36.07	0.25	--		--	--	--	
TF1/P 10	2	0.0	3.4	43.23												dry**	0.00	dry**	0.00	dry**	0.00	dry**	0.00	dry**	0.00			dry**	0.00	dry**	0.00			39.10	0.00	39.56	0.00	38.28	0.00	39.40	0.00
TF1/P 11	2	0.0	6.1	44.01												36.84	0.00	37.16	0.00	36.77	0.00	36.00	0.03	35.90	0.10			35.83	0.00		0.00	35.82		35.84	0.00	36.08	0.00	35.83	0.00	35.81	0.00
TF1/P 12	2	2.0	12.0	42.69																				37.40	3.70				0.00		0.00	36.74	2.00	36.49	1.96	36.93	0.00	35.94	0.99	35.76	0.25
P 13	2	2.0	9.0	31.91																														26.81	0.14	26.58	0.00	25.71	0.01	--	
P 14	2	2.0	10.0	32.46																														25.34	0.25	25.70	0.00	24.07	0.00	--	
P 15	2	2.0	10.0	31.28																														25.29	0.00	24.34	0.00	24.69	0.01	--	
B 2 S	1.5	10.0	15.0	13.78																						10.05										--		--		--	
B 2 D	4	20.0	35.0	13.91																						10.50										--		--		--	
B 25 S	1.5	3.0	13.0	13.33																						10.36										--		--		--	
B 25 D	1.5	30.0	40.00	13.69																						10.82										--		--		--	

LNAPL measurements indicate LNAPL thickness atop the water table, as measured in the monitoring well.

SECTION 3

LNAPL REMOVAL

3. LNAPL REMOVAL

Based on the updated Conceptual Site Model, removal of the mobile LNAPL via pumping is an effective method of achieving the PCB cleanup goal. In a letter dated May 28, 2009, USEPA agreed that LNAPL removal could be employed in areas of the site where excavation is not feasible due to the presence of existing infrastructure or where excavation would adversely impact Hatco's normal operations.

The objective of this IRM is to remove recoverable LNAPL containing PCBs from areas of the Hatco site where excavation of this material is not feasible due to the presence of existing infrastructure or where excavation would adversely impact Hatco's operations. Removal of the recoverable LNAPL is expected to reduce soil PCB concentrations within the LNAPL plume to below the site-specific cleanup goal of 500 mg/kg dry weight. The LNAPL thickness will be reduced to "non-noticeable" in accordance with the New Jersey Ground Water Quality Standards (N.J.A.C. 7:9-1 et. seq.). The metric for "non noticeable" is as follows:

> A disposable polypropylene bailer equipped with a check-valve is lowered into the well. When the bailer is removed, there is no evidence of free product on the inside or outside of the bailer or on the water surface. The check valve will prevent any LNAPL that enters the bailer from draining out and will therefore provide an accurate assessment of the presence of visible LNAPL in the monitoring wells.

To facilitate preliminary design of the LNAPL recovery system, Weston used an approach similar to that presented in the January 22, 2009 LNAPL Modeling Progress Report (WESTON 2009). Results from an analytical groundwater flow model were combined with site-specific LNAPL observations and measurements to develop the LNAPL recovery system described below.

An analytical groundwater flow model was developed for the Hatco site using WINFLOW Version 3.28 in order to simulate the effects of a dual-phase extraction system. WINFLOW is a two-dimensional analytical groundwater flow model based on the Strack equation

(Environmental Simulations, 2008). The model was constructed to represent the confined shallow sand layer typical of southern areas of the site. From an LNAPL recovery standpoint, this would represent worst-case conditions because sufficient drawdown would be required to offset the piezometric head in this area and create a cone of depression to initiate LNAPL flow towards the recovery wells. The model was constructed using a hydraulic conductivity of 35 ft/day and a hydraulic gradient of 0.095 to the south. A reference head point was located several thousand feet cross-gradient from the Hatco site to provide a reference for the groundwater elevations. The reference head was located well outside the influence of any proposed recovery wells or trenches located at the site. The porosity was set at 30% and a storage coefficient of 0.1 was assumed. The relatively high storage coefficient was selected to more accurately reflect the unconfined conditions that exist at the northern end of the plume and to provide a high-end estimate of the extraction times during transient simulations.

The model was set up and run using the estimated input parameters, and the location and magnitude of the reference head and the hydraulic gradient were varied until a reasonable match was obtained with historical groundwater contour maps from the RI. The October/November 1998 groundwater contour map prepared by URS was used for model calibration. Calibration focused on the portion of the site occupied by the LNAPL plume and did not consider the effects of the drainage swale located east of the rail spur. Once the steady-state calibration was achieved, a transient calibration was performed to verify the hydraulic conductivity estimate. Transient calibration was performed by simulating a pumping test performed at MW-6S by Dan Raviv Associates in 1994. A satisfactory match was obtained with the pumping test data using the initial hydraulic conductivity estimate of 35 ft/day.

Once calibrated, the model was used to assess potential pumping scenarios for LNAPL recovery. Initially, just one extraction well was modeled in an effort to determine the radius of influence for a "standard" well. It was determined that a pumping rate of 2 gpm produces an effective radius of influence (presumed to be analogous to the LNAPL capture zone) of 15 ft and a pumping rate of 4 gpm produces an LNAPL capture radius of 50 ft. These estimates were used to design a layout of dual-phase (i.e., LNAPL and groundwater) extraction wells and various versions of that layout were evaluated for total LNAPL capture. The input values used to calibrate the groundwater flow model were conservative, so the predicted capture zones should also be conservative. In any event, the capture zone for the recovery wells will be verified during Phase I of the LNAPL recovery system operation and the spacing for the Phase II wells will be adjusted accordingly.

Site-specific observations and measurements were used to assess the LNAPL volume, recoverability of LNAPL and removal rates. The estimated thickness of the LNAPL layer within the formation (0.1 to 0.3 foot) was multiplied by the area of the mapped LNAPL plume (223,000 sq ft) and, correcting for porosity (assumed 30% based on published values for the observed soil type); the total volume of LNAPL within the plume was estimated at between 50,000 and 150,000 gallons. This volume estimate is considered to be conservative because it assumes the LNAPL thickness is constant over the entire area of the plume, but in reality it is likely less along the edges. Observations from the pilot excavations suggest that at least 80% of the total LNAPL is recoverable, based on efforts to collect a soil sample that contained an appreciable amount of LNAPL. Applying this percentage to the calculated LNAPL volume yields an estimate of recoverable LNAPL of 40,000 to 120,000 gallons.

The LNAPL recovery rate was estimated based on the results of a long-term LNAPL Removal Pilot Study performed by URS in 2001. URS installed product skimmer pumps in two monitoring wells (MW-52S and MW-31S) and recovered LNAPL for a period of 1 to 3 months. The average LNAPL recovery rates for MW-52S and MW-31S were 1 and 12 gpd, respectively. It should be noted that these recovery rates are based on a skimmer pump without any groundwater extraction to increase LNAPL flow to the well. Therefore, they would represent the low end of the range for LNAPL recovery for a dual-phase extraction system. It should also be noted that the pump used for the pilot test at MW-52S had mechanical difficulties and was not operated continuously, thereby limiting the recovery rate at this location (URS 2001b).

In addition to capture and removal of the LNAPL, the proposed dual-phase extraction system would also remove and treat groundwater contaminated with dissolved constituents from the LNAPL as well. As previously discussed, the LNAPL is believed to be the ongoing source of dissolved groundwater contamination and removal of the LNAPL is expected to provide long-term reduction in dissolved groundwater concentrations. Although the LNAPL recovery system is not designed specifically to capture all impacted groundwater, a substantial percentage of the groundwater impacted with dissolved constituents will be removed and treated by the LNAPL recovery system, thereby accelerating cleanup of site groundwater.

3.1 LNAPL REMOVAL AREA

In 2007, Weston completed a comprehensive verification sampling program to define the extent of the on-site LNAPL plume. Direct-push technology was used to advance a soil sampler to depths greater than the LNAPL layer. The presence/absence of LNAPL was visually determined and soil samples were collected from above and below the LNAPL layer and analyzed for PCBs to define the extent of residual soil impacts outside of the LNAPL. The results of this sampling program were provided in the December 17, 2008 Data Progress Report submitted to USEPA and NJDEP (WESTON 2008c). Figure 2A of that document shows the mapped extent of the LNAPL plume along with the soil analytical results. Figure 2 of this Revised IRM Plan also depicts the LNAPL plume, which has been revised to ensure all LNAPL-area historical boring log information is accurately reflected. The outline of the LNAPL plume between the western 'arm' and 'leg' has been revised to incorporate additional historical data. Due to the limits posed by hand-augering in the wetlands during the 2007 field investigation, WESTON acknowledges that vertical delineation of LNAPL is incomplete in this area, as discussed in the 2009 Addendum 3 to the Consolidated RAWP.

USEPA's May 28, 2009 letter indicated LNAPL recovery via the installation of recovery trenches or pumping is a "sound approach for locations where excavation could compromise the integrity of Hatco's structures." With this in mind, Weston evaluated the existing infrastructure at the Hatco site (above-ground structures and subsurface utilities), with regard to the mapped LNAPL plume and the estimated depth of excavation. The excavation footprint for various areas was based on our geotechnical analysis including slope stability and layback, with an allowance for a reasonable working perimeter. Vibration calculations were also preformed to assess the distance from existing buildings and utilities that shoring such as sheet piles could be installed without potential damage to these structures. Areas meeting these criteria for excavation were then evaluated for potential significant adverse impacts or interruptions to Hatco's manufacturing operations (roadways, loading areas, etc). Figure 4 shows the extent of existing infrastructure and active Hatco operations within the mapped extent of the LNAPL plume and also the setback associated with each (20 ft from the tank farm, 10 ft from buildings and 5 ft on either side of underground utilities). A memorandum prepared by a geotechnical engineer explaining how the building and utility setbacks were developed is included in Attachment 2. It should be noted that the setbacks shown on Figure 4 only represent the top of the setback. The excavation wall would be sloped at a 1:1 slope down to the bottom of the excavation (8-20 ft) resulting in an even larger setback than shown on Figure 4. Also, please note that Figure 4 shows only those subsurface and above-grade utilities that were known to exist and/or were located using surface geophysical methods. It is expected that there are many more subsurface utilities that were not shown on historical plans and could not be located using geophysical methods due to interferences from facility infrastructure (fences, building, above-grade utilities, etc).

This evaluation excluded nearly all areas located north of the ZAA Building and the Effluent Pretreatment (EPT) System, leaving only a few small excavation areas (less than 2,500 sq ft) in this portion of the site. It is not reasonable to excavate these small isolated areas ("islands") because they would be surrounded by areas being treated using LNAPL recovery and the measures required to limit potential future LNAPL migration into these areas would be extensive. As a result, excavation is limited to the two southern "legs" of the LNAPL plume, including former Pond No. 3 and Former Muck Areas (further discussed in Addendum 3 to the RAWP). LNAPL recovery will be performed in the northern half of the plume to prevent impacts to Hatco's operations and to remediate LNAPL beneath existing buildings and utilities. Figure 4 shows the areas of the plume to be excavated and where LNAPL recovery will be performed.

The area north of the ZAA Dryer Building contains a number of partial utilities identified by geophysics. It is anticipated that many more utilities exist in this area, traversing between the ZAA Dryer Building and the tank farm and manufacturing buildings to the north. This is a paved area that receives a significant amount of truck traffic associated with Hatco deliveries to the warehouse building and the tank farm. In order to excavate this area, Weston would have to close down this entire area, restricting all traffic. In addition, because the utilities are largely undetermined, there is a health and safety concern that a live line could be encountered. In any event, any unidentified utility that is encountered would force stoppage of work until that line could be traced, identified and relocated to continue work. This would cause further delays in completing the work and extend the amount of time Hatco would not be able to access this area. Also, this area is in the middle of the LNAPL plume, so if we were to excavate the soil in this area, there would be no way to prevent LNAPL from flowing into the clean backfill once we have completed the work. It should be noted that confirmation sampling will be performed after completion of the LNAPL recovery and if that sampling shows that PCBs above 500 mg/kg remain in the soil, then excavation would be attempted at that time.

The location of the recovery trenches and sheet pile barrier south of the ZAA Dryer Building was selected to allow full excavation of former Pond No. 3 in response to EPA and NJDEP requests. because it represented the most efficient location to transition from LNAPL recovery to excavation.

The area to the west of the ZAA Dryer Building is similar to the area to the north in that there are numerous known utilities and likely many more that are still unknown. This is also an area that receives heavy truck traffic relating to Hatco deliveries at the warehouse. As in the area north of the ZAA Dryer Building, the area west of the ZAA Dryer Building is within the main body of the plume so the issue of recontamination of clean backfill from LNAPL flowing in from adjacent areas also applies. There is no way to isolate the area after excavation to prevent recontamination from the LNAPL while still reinstalling any utilities that required temporary relocation.

3.2 ACTIVE LNAPL REMOVAL

Mobile LNAPL will be removed from areas that cannot be excavated through the use of a series of sheet pile walls, active recovery trenches and recovery wells. Figure 5 shows the preliminary layout of the LNAPL recovery system. The actual locations, construction and extent of these structures (predominately the distance from existing structures) will be determined based on a geotechnical evaluation and locations of utilities.

A recovery trench has been proposed along the south end of the tank farm in lieu of recovery wells because it is impossible to install any type of LNAPL recovery system (wells or trenches) within the existing tank farm located to the north. The proximity of the existing tanks to each other combined with the overhead service piping and the spill containment structure prevent access for any type of mechanized equipment required to install such systems. Because active LNAPL recovery is not possible within the tank farm, WESTON believes that an LNAPL recovery trench located along the southern perimeter of the tank farm is the most efficient and effective method to induce the LNAPL to flow out from beneath the tank farm. An active recovery trench will induce a consistent horizontal gradient along its length, creating consistent southerly migration of LNAPL. In addition, as the LNAPL recovery rate decreases with time, the recovery trench can be transitioned to passive operation and still provide effective capture of any small amounts of LNAPL that may flow from beneath the tank farm in the future. Recovery wells require continued active operation to be effective and do not provide an option for passive operation as the LNAPL recovery rates decrease.

Because of limitations of the analytical modeling due to difficulties with calibration to site-specific field conditions (due to the unique nature of the LNAPL at this site), field data was solely relied upon to design the remediation system. Because of the large variability in some of the field measurements (e.g. LNAPL recovery rates), there is some inherent uncertainty associated with these estimates. Therefore, the LNAPL recovery system will be installed in "phases" with the initial phase consisting of four recovery wells operated for 3-6 months. This will allow confirmation of the three key design parameters: 1) LNAPL recovery and sustainable groundwater extraction rates, 2) capture zone (well spacing), and 3) groundwater influent quality. Groundwater influent quality is a key design parameter for the groundwater treatment system and although water quality data are available from monitoring well sampling, such results are typically not representative of long-term pumping. As a result, using monitoring well data often results in over-design of treatment processes.

The four "Phase I" recovery wells be installed shortly after NJDEP and USEPA approval of this Revised IRM Plan and operated for a period of 3-6 months. A smaller, temporary treatment system will be used to remove the LNAPL from the recovery well effluent and treat the groundwater prior to discharge to the Middlesex County Utility Authority (MCUA) Publicly-Owned Treatment Works (POTW). This will allow confirmation of groundwater and LNAPL removal rates, influent groundwater quality, and recovery well spacing. Once these parameters have been confirmed, the remaining extraction wells can be installed ("Phase II") and a full-scale treatment plant constructed. The Phase I extraction wells would continue to operate and remove LNAPL while the full-scale system (Phase II) is designed and constructed.

It was determined from the analytical modeling that a pumping rate of 2 gpm produces a radius of influence (presumed to be analogous to the LNAPL capture zone) of 15 ft and a pumping rate of 4 gpm produces an LNAPL capture radius of 50 ft (as depicted on Figure 5). These estimates were used to design a layout of dual-phase (i.e., LNAPL and groundwater) extraction wells and various versions of that layout were evaluated for total LNAPL capture. The end result of the modeling effort was a system composed of 13 dual-phase extraction wells each pumping at approximately 3 to 5 gpm, approximately 450 linear feet of sheet pile hydraulic barrier, and two active recovery trenches pumping at 10 to 15 gpm (total system flow of about 45 to 85 gpm). The locations of the proposed extraction wells, barriers and trenches are shown on Figure 5. The sheet pile barrier and one active LNAPL recovery trench will be installed along the northern end of the excavation areas as a precaution against any LNAPL migrating into this area after remediation. A second active LNAPL trench is located along the southern edge of the tank farm in lieu of extraction wells because recovery wells could not be located north of this trench due to access restrictions in this area. This northern recovery trench may need to be operated longer than the other aspects of the LNAPL recovery system because it must capture all of the LNAPL located beneath the tank farms, i.e., from a larger capture area. However it is anticipated that this trench may be transitioned to passive mode as LNAPL recovery rates decrease over time.

An existing passive LNAPL recovery trench (commonly referred to as the "T-208 System") is located at the southwest corner of the main tank farm and has been in operation since 2000 (see Figures 2 and 5) . Details regarding the location and construction of this system were submitted to EPA and NJDEP in January 2001 in the Operations and Maintenance Manual for the Seep Interceptor System (URS, 2001a).

The T-208 system will not be incorporated into the active LNAPL recovery system described in this plan. The T-208 system has been deemed obsolete because it no longer recovers LNAPL. Monitoring of the system has confirmed that no additional LNAPL has been recovered within approximately the last year. In addition, the T-208 system is a passive system that can collect LNAPL only when groundwater elevations are within a specific limited interval. The proposed active LNAPL recovery system will use hydraulic control to accelerate LNAPL recovery and will depress the water table in the area of the T-208 system such that its ability to intercept LNAPL will be prevented.

Combining the proposed extraction system (13 wells and two trenches) with the estimate of LNAPL recovery rates determined from the URS LNAPL Removal Pilot Study discussed above, an estimate of the length of time needed to operate the dual-phase extraction system was developed. A conservative LNAPL recovery rate of 5 gpd was used as the starting rate. It was assumed that the recovery rate would decline in a linear fashion to a final rate of 0.1 gpd during the extraction period. Therefore, an average rate of 2.5 gpd was used to estimate the length of time the system would be operated. A rate of 2.5 gpd for each recovery well and 15 gpd for the two active trenches would result in a total system recovery rate of 50 gpd. Dividing this into the total estimated recoverable volume of LNAPL yields a conservative estimate of 1.5 years to as long as 6.5 years for removal of the LNAPL. It is anticipated that recovery of the LNAPL from beneath the tank farm will take an additional 2 years because the density of the infrastructure prevents installation of recovery wells or trenches within the tank farm, so the LNAPL must be allowed to drain from this area under ambient gradients because it is beyond the active capture zone of the recovery system. It should be noted that there is significant uncertainty associated with the estimation of the LNAPL recovery rate and remediation time. The Phase I recovery system will be used to directly measure the LNAPL recovery rate and the remediation time estimate will be confirmed using that data.

It should be noted that the availability of mobile LNAPL to flow into a recovery well is somewhat dependent upon groundwater elevation. As groundwater levels rise, LNAPL tends to become trapped in pore spaces and cannot migrate to wells. Thus, rising or high groundwater levels may slow LNAPL recovery rates and lengthen the total remediation time. This is less of a concern with a dual-phase extraction system, whereby the pumping rates can be increased to offset rising groundwater levels if needed. The overall capacity of the groundwater treatment system will limit the amount of increased groundwater extraction that can be accommodated, however, so an extended period of elevated groundwater conditions could result in longer remediation times than those calculated above.

3.2.1 Recovery Wells

The 13 LNAPL recovery wells will be approximately 30 feet deep, constructed of 6-inch diameter 304 stainless steel, and installed in 12 inch diameter boreholes. A pilot boring will be drilled at each LNAPL recovery well location to facilitate the collection of soil samples for grain size analysis. Soil samples will be collected on a continuous basis within the pilot borings and logged by a Weston geologist. It is anticipated that between 2 and 4 samples will be collected from the screened interval at each location. The actual number of samples analyzed will be based on the variability of the soil as observed in the field by the Weston geologist.

The results of the grain size analysis will be used to design an appropriate sand pack and well screen that will maximize well efficiency and LNAPL recovery. Although the exact well specifications will be based on the results of the pilot borings, it is anticipated that each well will consist of 10 to 15 ft of #10 or #20 slot wire-wrapped screen and an appropriate length of riser pipe. A wire-wrapped screen will be used to provide maximum hydraulic efficiency and promote LNAPL flow into the wells, which will reduce long-term maintenance requirements (redevelopment). A five-foot long sump will be included below the screen to accommodate the top-loading pneumatic recovery pumps. The sand pack will be installed in the annulus to a depth of at least 2 ft above the top of the well screen. A 3 ft bentonite seal will be placed in the annulus above the sand pack to prevent surface infiltration. The remainder of the annulus will be backfilled with concrete-bentonite grout.

Once installed, each recovery well will be developed using a combination of surging and pumping to remove fine soil particles from the sand pack and the well. It is anticipated that each well will be developed for 4-6 hours, but the actual development time will be based on observations of fines in the discharge water. The development will be considered complete when the discharge water contains less than 2 mg/L of sediment as measured with an Imhoff cone.

All drill cuttings generated during installation of the recovery wells and the pilot borings will be containerized and sampled for waste characterization. The soils will be disposed off-site as appropriate based on the waste characterization results. All discharge water from the well development will be containerized, treated via the Phase I treatment system (described in subsequent sections) and discharged to the MCUA sewer.

3.2.2 Recovery Trenches

The active recovery trenches will consist of a series of pre-cast concrete leaching chambers. The exact size of the chambers will be based on the length of the total "run". The individual chambers will be approximately 4 feet wide by 6 ft high by 10 ft long. A local vendor capable of providing custom chambers has been identified, which will allow maximum flexibility in the final design.

The individual chambers will be laid end-to-end to create a continuous open channel. The two end chambers will have solid ends. The chambers will be perforated along the upgradient side and solid on the bottom and downgradient side to prevent LNAPL migration past the trench. Selected chambers within each recovery trench will have a manhole on top to allow access to the inside of the chambers for skimming of LNAPL and other maintenance. A sump and access point will be provided as part of each trench to enable installation of a total fluids recovery pump. It is estimated that the recovery trenches will be pumped at a rate of approximately 10 to 15 gpm to maintain an inward hydraulic gradient and promote LNAPL collection.

A series of pilot borings and/or test pits will be advanced along the alignment of the proposed recovery trenches to verify geologic conditions at the specific location of each trench. The results of the pilot borings/test pits will be used to determine the depth of the proposed trenches and the specific vertical interval of the "screened" section. The length of the proposed trenches is shown on Figure 5. Based on groundwater modeling presented in the LNAPL Modeling Progress Report dated January 22, 2009 (WESTON, 2009), the estimated radius of influence for the recovery trenches is approximately 50 to 100 ft, although it will vary based on the rate of groundwater removal required to maintain the water level within the collection interval.

The chambers will be installed on native material. An envelope of crushed stone encased in permeable geotextile fabric will be emplaced on the upgradient face of the chambers to limit the migration of soil into the chambers. This will allow LNAPL to flow into the chambers with little resistance while limiting groundwater inflow from beneath the chambers. LNAPL entering the trench will become trapped within the chambers however and will be removed via skimmer pumps, dual-phase pneumatic pumps and/or absorbent booms depending on the thickness of the product and the rate at which it accumulates in the chambers. It is anticipated that significant amounts of LNAPL will be captured in the trenches initially but that the rate at which LNAPL flows into the chambers will decrease over time, requiring a less aggressive method of LNAPL removal.

3.2.3 Barrier Walls

Hydraulic barrier walls will be used to prevent LNAPL migration into the areas proposed for excavation and also to direct the LNAPL towards the southern recovery trench. The objective of the sheet pile barrier is to prevent downgradient migration of LNAPL, while minimizing any impedance of groundwater flow. A series of test borings will be drilled along the barrier wall alignment and Standard Penetration Tests (SPTs) will be performed to assess the bearing strength of the soils and the sheet pile design will be adjusted as necessary. Many options exist in this regard should the bearing strength of the soils become an issue, including the use of lighter sheet piles.

It is anticipated that the barrier walls will be constructed using steel sheet piles with sealed joints (e.g. "Waterloo" sheets or equivalent). The sheet piles will be driven to a depth approximately 10 ft below the observed LNAPL layer, although this may be extended if the barrier wall is also to be used for structural support along the northern edge of the excavation area. This installation depth is intended to prevent LNAPL migration while allowing groundwater to continue to flow beneath the barrier, thereby reducing the amount of pumping required to maintain the natural groundwater gradient. The barrier walls will be sealed to the ends of the southern recovery trench using a length of flexible HDPE material held in place with industrial adhesive. The barrier walls will be removed upon completion of the LNAPL recovery portion of the project, along with the recovery trenches and wells.

3.3 LNAPL RECOVERY AND GROUNDWATER TREATMENT

The LNAPL recovery and groundwater extraction and treatment system will consist of 13 shallow extraction wells, two (2) active LNAPL recovery trenches (see Figure 5) and associated LNAPL recovery and groundwater treatment system(s) to treat extracted fluids.

Implementation of the extraction and treatment system will be conducted in a two-phased approach to; 1) expeditiously initiate LNAPL recovery in high priority areas at the site, 2) validate LNAPL recovery and groundwater treatment system performance prior to Phase II construction and 3) utilize Phase I system operations data and Weston design to implement beneficial enhancements that would improve system performance prior to Phase II construction. Each phase is discussed as below.

The Phase I system will consist of LNAPL recovery from 4 recovery wells to validate LNAPL recovery and treatment system performance. The initial LNAPL recovery wells will be installed in two areas. Three wells are proposed in the northern manufacturing area between the ZAA Dryer building and the Effluent Pretreatment (EPT) system and adjacent to the Acid Tank Farm. These areas are deemed a high priority because they are within the most active portions of the site. The second area is to the south side of the ZAA Building, where confined hydrologic conditions predominate and require separate evaluation of LNAPL recovery under these different conditions. Construction of a portion of the proposed conveyance system will be necessary as well as construction of a temporary LNAPL recovery and groundwater treatment system to treat fluids from the Phase I extraction wells.

Following construction of the Phase I system, it will be placed into operation for 3-6 months to collect performance data for design of the Phase II systems.

1. Confirm the groundwater recovery rate and drawdown for each well. This data will be used by Weston to verify the groundwater modeling results and confirm appropriate well spacing prior to installation of the Phase II recovery wells.
2. Confirm the LNAPL recovery rates over time for each recovery well during operation of the system.
3. Confirm LNAPL recovery and groundwater treatment system performance and validate system design prior to full scale system installation.

4. Utilize data collected from system operation to confirm overall effectiveness, estimated operating times to recover LNAPL and confirm Phase II capital and operating costs in advance of construction.

Groundwater elevation and LNAPL thickness measurements made in existing monitoring wells and in the recovery wells themselves will be used to evaluate the capture zone of the recovery wells. The location of the Phase I LNAPL recovery and groundwater treatment system will be confirmed as part of the design. It will either be located adjacent to the Ester I Tank Farm or adjacent to the Phase II system, which is east of the EPT system as shown on Figure 5. The exact location will require coordination with Hatco. Factors such as access to utilities and the fluids recovery conveyance system layout will be used to determine the final location.

Construction initiation of Phase II systems are anticipated to be approximately 9 months following start-up of Phase I LNAPL recovery and treatment systems. The estimated period of recovery at each point is currently estimated to be between 1.5 and 6.5 years, with the exception of northern wells and trenches extracting LNAPL and groundwater below the Ester I and Acid Tank Farm, where extended recovery is anticipated for an additional 2 years. The extended operation of the northern recovery trench/wells is required because these systems will be receiving LNAPL that continues to move southward from areas beneath structures that are beyond the capture zone of the active removal system. The density of the existing infrastructure prevents the installation of additional active recovery wells or trenches further to the north, so the natural southward migration of the LNAPL under ambient gradients must be relied upon to collect this material. It should be noted that there is significant uncertainty associated with the estimation of the LNAPL recovery rate and remediation time. The Phase I recovery system will be used to directly measure the LNAPL recovery rate and the remediation time estimate will be confirmed using that data.

3.3.1 Effluent Requirements

Weston is currently negotiating with Hatco with regard to several options for discharge of treated water from Phase I to the MCUA sewer, including via the existing Hatco sewer discharge line (although equipped with a separate metering and sampling point for Weston's effluent) and a newly installed dedicated line. The selected approach will require both Hatco and regulatory approval. For Phase II all treated groundwater will be discharged directly to the MCUA sanitary sewer at a point down stream of Hatco's compliance monitoring outfall. In all cases, Weston assumes that discharge will be governed by the requirements of an MCUA discharge permit. Weston will obtain the discharge permit directly with the MCUA. The estimated limits for discharge are shown in Table 2. Table 2 was prepared based on the following sources of information:

1. Historical groundwater sampling data from monitoring wells as presented in the Remedial Investigation (RI) report prepared by URS.

2. Analytical results from the pilot excavations conducted in November and December 2007. WESTON used both the oil/water separator (OWS) influent and effluent water quality results.

3. Iron, manganese and Total Suspended Solids (TSS) water quality results were obtained from groundwater sampling at monitoring wells MW-16S, MW-17S, MW-43S and MW-26S in September 2008 because no historical data could be found for these parameters.

4. Estimates based on professional experience where no or little data was available.

The estimated maximum influent concentrations were based on review of both the historical groundwater quality data (Item 1) and the pilot test results (Item 2). The maximum observed concentration from both data sets were used to estimate the maximum influent concentrations included in Table 2, with the exception of iron, manganese and TSS. Insufficient water quality data was available for these three parameters, so additional groundwater samples were collected from on-site monitoring wells (Item 3) to confirm the estimated maximum and average concentrations for these three parameters.

The estimated average influent concentrations were primarily based on the average concentrations observed during the pilot work conducted in November and December 2007 (Item 2). However WESTON rounded up the average concentration for dichloromethane, Bis(2-ethylhexyl) phthalate, Di-n-octylphthalate, PCBs, and cadmium in developing the Treatment System Design parameters to account for variability in the data set.

The pH average and maximum were estimated from field sampling parameters.

It should be noted that the discharge limits provided in Table 2 are preliminary pending ongoing negotiations with MCUA. The final discharge limits will be provided to EPA and NJDEP in a progress report along with the design details.

It is assumed that both the Phase I and Phase II groundwater discharge lines will be equipped with full time flow monitoring via a magnetic flow meter, and an automated composite sampler will be required to collect samples over a 24-hour period. Flow charts/trends and daily total flows will be documented for each day of operation.

Table 2
Treatment System Design Data

Compound of Concern	Estimated Average Influent Concentration (µg/L)[1] unless noted otherwise	Estimated Maximum Influent Concentration (µg/L)[1] unless noted otherwise	Estimated Monthly Average Treatment Facility Effluent Limits (µg/L)[1]
Vinyl Chloride	52	90	See TTO[2]
Chloroethane	41	74	See TTO
1,1-Dichloroethane	10	21	See TTO
cis-1,2-Dichloroethene	773	1,305	See TTO
Trichloroethene	1,800	3,000	See TTO
Benzene	230	800	See TTO
Toluene	4,300	6,900	See TTO
Ethyl benzene	15	940	See TTO
Total Xylenes	31	4,700	See TTO
Total VOC	7,251	17,830	See TTO
Dichloromethane	2	6.3	See TTO
Bis(2-ethylhexyl) phthalate	220	2,200	See TTO
Di-n-octylphthalate	17	170	See TTO
PCBs	350	705	<3 (detection limit)[3]
Total Toxic Organics (TTO)	Not Available	Not Available	2,130 (daily max)
Arsenic	14	26.7	1,000 monthly average & 3,000 daily maximum
Iron Total/Dissolved	10,000/5,000	21,000/7,250	No Limit
Manganese Total/Dissolved	800/800	1,000/1,000	No Limit
Cadmium	4	36.1	260 monthly average & 690 daily maximum
pH (standard units)	6-8	6-8	<5 to >12.5
TSS (mg/L)	100	150	No Limit

1. Estimated Influent Concentrations are for groundwater after LNAPL removal and phase separation.
2. These compounds are regulated under Total Toxic Organics (TTO) criteria
3. The PCB limit of 3 ug/L will apply to all samples and is not an average monthly value.

3.3.2 Influent

The groundwater and LNAPL recovery rates are estimated to be 3 to 5 gpm per recovery well and 10-15 gpm for both recovery trenches. The estimated groundwater treatment system flow rates for Phases I and II are presented in Table 3.

Table 3
Treatment System Design Flow Rates

Parameter	Phase I	Phase II
Minimum Treatment Rate (gpm)	12	50
Average Treatment Rate (gpm)	16	70
Maximum Treatment Rate (gpm)	20	90
Design Treatment System Rate (gpm)	25	120
Average LNAPL Recovery Rate (gpd)	10	50
Maximum LNAPL Recovery Rate (gpd)	30	200

The estimated groundwater treatment system influent (post phase separation) and effluent limits are summarized in Table 2 for design of the groundwater treatment system. These data are based on the December 2007 pilot testing as well as available historical data.

3.3.3 Groundwater Treatment and LNAPL Recovery Processes

3.3.3.1 Phase I System

The Phase I LNAPL recovery and groundwater treatment system is anticipated to be comprised of the following major unit processes.

- Four recovery wells and conveyance system to transfer fluids to the LNAPL recovery and groundwater treatment system.
- Phase separation
- LNAPL storage
- Groundwater influent equalization tank
- Filtration
- Liquid phase carbon adsorption
- Polishing filtration
- Effluent holding tank and composite sampler
- Compressed air or nitrogen system to power all Phase I recovery wells.

The recovery wells, conveyance system infrastructure, LNAPL separation and storage vessel and phase separator will be rated as hazardous locations. The downstream groundwater treatment system will have a general purpose electrical classification. Secondary containment of LNAPL and contaminated groundwater will be provided. System design will insure the proposed system can operate during cold weather periods and be protected from freezing if the Phase I system is required to be operated during cold weather periods.

One single phase, 230 volt or three phase 460 volt electrical feed will be provided to the groundwater treatment system enclosure. The overall system will be controlled by a central control panel. Alarm monitoring will be provided by a four channel minimum cellular autodialer. The system will be provided with either a standard telephone or cellular service.

3.3.3.2 Phase II System

The Phase II LNAPL recovery and treatment system will be designed following a 3-6 month period of Phase I system operations once key performance data are confirmed. During design and construction of the Phase II system, the Phase I system will continue to operate. The following technical assumptions have been used to design the Phase II system, although these assumptions may be refined based on the Phase I results.

- Because of the increased flow of the Phase II system, a larger treatment system will be required; which will require a larger footprint.
- The location of the full scale system is anticipated to be in an open area east of the LNAPL plume and south of Hatco's manufacturing operations (see Figure 5). Soils in this area contain PCBs greater than 2 mg/kg but less than 500 mg/kg. As such, this area will be included beneath the engineered cap that will prevent human contact with PCBs greater than 2 mg/kg. The floor slab of the treatment plant building will be incorporated into the engineered cap design. The proposed location does not fall within the footprint of any known or suspected disposal areas (former ponds, muck areas, lagoons, debris areas, etc).
- All conveyance lines will be installed separately to a distribution manifold.
- An LNAPL recovery system will be provided to separate and store LNAPL. All equipment will be located outside and equipped with heat tracing and insulation to prevent freezing. The LNAPL recovery system will consist of one separation tank, one decanting/storage tank and a redundant coalescing phase separator all designed to meet the flow requirements specified in Table 3. The entire LNAPL system will be located outdoors in a hazardous area and have a common secondary containment system.
- The treatment process will be similar to the Phase I system except that it will be designed to meet the higher flow requirements specified in Table 3. Alternative metals pretreatment systems may be required. Should these systems be needed, they will be comprised of oxidation, chemical coagulation, solids separation, post neutralization and

sludge storage/dewatering. The need for metals removal will be confirmed during Phase I.

- A dedicated effluent line to the distribution box, downstream of Hatco's compliance monitoring outfall will be required for discharge to the MCUA.
- A three-phase electrical service will be required. Process control and alarm systems will be similar to systems indicated for the Phase I system.

3.3.4 Recovery Wells and Conveyance System Piping

As described above, each recovery well will be approximately 30 feet deep, constructed of 6-inch diameter 304 stainless steel, and equipped with approximately 10 to 15 feet of wire-wrapped screen and a five-foot long sump below the screen to accommodate the pneumatic recovery pump.

All recovery wells will be installed in below-ground vaults that are a minimum of 4-foot in diameter or 4-feet square. The base of the vaults will either be integral to the manhole or cast in place. The vault depth will be maintained less than 4-feet to be less than the confined space standard. Each vault will be equipped with a 24-inch square, lockable access door to service the equipment. In road areas, locking traffic-rated manhole covers may be substituted for the access doors.

Well pumps will be top loading, AP-4 (long-design) pneumatic pumps provided by QED or equivalent. Pumps will be pneumatically powered and have an integral level controller that maintains well drawdown based on the position in the well. This design allows for capture of total fluids down to the pump inlet location which can be adjusted for optimization of groundwater and LNAPL recovery. These pumps require a minimum 4-foot sump below the minimum operating level since the pump equipment is below the top inlet.

Instrument quality compressed air or nitrogen will be supplied to each well from the groundwater treatment system. A minimum of 5-7 Standard Cubic feet per Minute (SCFM) of air is required for each well and 10-12 SCFM of air is required for the recovery trenches. The pneumatic system will be capable of delivering not less than 50 SCFM during Phase I operation and 200 SCFM during Phase II. The minimum air supply to each well will not be less than 3/8" diameter. The main air supply will be designed to ensure air is not being restricted to any well.

The air and influent piping will be installed inside of sleeves for a means of secondary containment and maintenance. Piping will either be installed below ground or above ground and equipped with appropriate freeze protection systems. Influent tubing will be HDPE or PE tube with no splices between access points. Air tubing will be reinforced PVC air hose or equal. The Secondary containment sleeves will be designed in accordance with the following parameters:

- Subsurface secondary containment systems will be 4-inch minimum diameter sleeves will be used for each individual extraction well point branch run. Above ground secondary containment sleeves will be 2-inch minimum diameter.
- Main line runs (tubing to more than one well) will be a minimum of 3-inch diameter (above ground) or 6-inch diameter (below ground) and be suitable for installation of all required groundwater and air line tubing. Phase I conveyance system components intended to be reused for Phase II will be designed to handle all wells for Phase II.
- For subsurface installations, a minimum cover of 3-feet will be maintained on all secondary containment pipes to prevent freezing.
- Subsurface manholes or access points will be installed on all branches and bends to enable maintenance and inspection. Well points may be used as branch manholes.
- Subsurface manholes installed at low points will be equipped with low point moisture alarms powered via an intrinsically safe barrier. Shielded cable will be installed inside the secondary containment piping from each sensor to the plant control system.

3.3.5 Treatment System Design Elements (Phase II)

Because the contaminated groundwater treatment facility will not be continuously manned, no special provisions will be included in the design to make it accessible for people with disabilities. The building will not be designed in accordance with ADA. Similarly, because there are no permanent employees, no bathroom facility will be provided. However the facility will be equipped with portable eyewash.

Secondary containment of the process area floor and a floor sump will be provided for protection against spills. A high level alarm in the sump will terminate facility operations.

A separate electrical distribution system will be provided to house all power distribution equipment and system controls.

3.3.6 Utilities

The following utility services will be required for the Phase II LNAPL recovery and treatment system.

3.3.6.1 Water

A 3/4-inch water service will be provided to the facility for wash down/cleaning. Water usage will be minimal.

3.3.6.2 Power

Three-phase, 480 volt power will be provided. Emergency power will not be required. A loss of power alarm will be included on the facility control system to notify operations staff of a loss of power.

3.3.6.3 Telephone

A standard or cellular telephone service will be provided. A minimum of 4 lines are anticipated. No security system will be provided because the plant will be located within the security fencing of the Hatco facility.

3.3.6.4 Sanitary Sewer

No restroom facilities will be provided for the building due to the limited occupancy and thus, no domestic sanitary discharge will be generated. Temporary sanitary facilities will be provided during construction.

Effluent (pretreated contaminated groundwater) will be discharged to the MCUA. The sewer connection will be permitted through MCUA as part of discharge permit. The exact route and discharge point for the effluent discharge to the MCUA has not been determined at this time. Several options are currently being explored by Weston including using Hatco's discharge line, installation of a new dedicated line, or use of a line on a neighboring property.

Effluent transfer will be either by gravity or pumped, depending on the service connection. This will be confirmed as part of system design.

3.4 LNAPL RECOVERY MONITORING

Once installed, the active recovery trench/well system will be maintained and monitored for effectiveness. During Phase I, groundwater elevation and LNAPL thickness measurements will be made in each recovery trench and well on a daily basis for the first month and then weekly for the next 6 months or until the Phase II system is operational, whichever is less. During Phase II operations, LNAPL thickness measurements will be made weekly for the first month, then monthly for the next year, and quarterly thereafter. However, as the LNAPL plume is reduced and the cleanup goal of no visible LNAPL is approached, the monitoring frequency will likely be increased as discretionary measurement rounds are conducted. Two years of monthly monitoring will be performed after the cleanup goal of no visible LNAPL has been achieved to verify compliance. These measurements will be made through the manhole access ways at the top of selected chambers or in the recovery wells, as appropriate.

Based on the results of the LNAPL and groundwater level monitoring, the product skimmers and/or groundwater control pumps will be operated as needed to maintain the groundwater level within the collection interval of the chambers and to remove all accumulated LNAPL. If the rate of LNAPL collection drops below that which would justify continued operation of the skimmer pumps (approximately 1 gallon per week), then absorbent booms and/or socks may be used instead. The booms and/or socks will be monitored on a monthly basis and changed out on an as-needed basis.

LNAPL recovery will continue using either skimmer pumps or absorbent booms until the LNAPL thickness have been reduced to "non-noticeable" in accordance with the New Jersey Ground Water Quality Standards (N.J.A.C. 7:9-1 et. seq.). The metric for "non noticeable" is as follows:

> A bailer is placed in the well. When the bailer is removed, there is no evidence of free product on the inside or outside of the bailer or on the water surface.

SECTION 4

PERMITTING

4. PERMITTING

Weston has performed a preliminary review of the permits that may be required to construct and operate the LNAPL recovery system as described in Section 3. Specific requirements for the permits or plan approvals will be further reviewed as part of the design process to determine applicability. Permits that are identified as being required will be obtained prior to construction and operation of the remediation systems. The following permits may be required for the LNAPL recovery and treatment system (Phase I and/or Phase II):

- Trench construction will require a Soil Erosion and Sediment Control Plan;
- Well permits will be required for the LNAPL recovery wells and compliance monitoring wells;
- A wetlands permit is not anticipated for the LNAPL recovery system because the system, as currently envisioned, does not encroach upon any mapped wetland areas or buffer zones at the site;
- Woodbridge Township has waived the requirement for a building permit for the groundwater treatment facility;
- A Water Diversion Permit may be required from NJDEP for the Phase II system depending upon the final groundwater extraction rate;
- Flood Hazard Area permit;
- A Treatment Works Approval may be required from NJDEP for the treatment plant and/or the conveyance system, depending upon the flow rate and the method selected for discharge of the treated water to the MCUA sewer;
- Middlesex County Utilities Authority (MCUA) approval is required for discharge of treated groundwater to the publicly-owned treatment works;
- Temporary storage of recovered LNAPL may be subject to NJ Hazardous Waste and TSCA regulations for storage and treatment (no additional permit required); and
- Air permit as appropriate under N.J.A.C. 7:27-8 or N.J.A.C. 7:27-22 may be required for the LNAPL recovery and groundwater treatment system.

SECTION 5

HEALTH AND SAFETY

5. HEALTH AND SAFETY

A Site-Specific Health and Safety Plan (HASP) will be prepared for all planned remediation activities and submitted along with the Addendum 3 to the Consolidated RAWP. Addendum 3 will be submitted to NJDEP and USEPA prior to August 28, 2009.

The HASP will be prepared in accordance with all applicable federal, state and local requirements including, but not limited to, Occupational Safety and Health Administration (OSHA) Regulations 29 CFR Part 1910 (Occupational Safety and Health Standards) and 29 CFR Part 1926 (Safety and Health Regulations for Construction) and N.J.A.C. 7:26E-1.9. The HASP will include Hatco Plant Safety Requirements and discuss the health and safety procedures and equipment required for activities to minimize the potential exposure to site workers, including construction workers.

SECTION 6

CONFIRMATION SAMPLING

6. CONFIRMATION SAMPLING

The post-IRM confirmation sampling program has been designed in accordance with the requirements for in-situ remedial confirmation sampling as set forth in the Technical Requirements for Site Remediation at Title 7 of the New Jersey Administrative Code, Chapter 6.4 (N.J.A.C. 7:26E-6.4(a)3). The post-IRM confirmation sampling program includes collection of a series of soil samples collected via soil borings installed on a systematic grid to document that all areas of soil contaminated with PCB in concentrations of 500 mg/kg dry weight or more, which are co-located with the LNAPL plume, have been successfully remediated to less than 500 mg/kg dry weight. All areas where PCBs in soil are present at concentrations of 500 mg/kg or more dry weight that are not co-located with the LNAPL plume are addressed in the Remedial Action Work Plan Addendum 3, which will be provided under separate cover.

The post-IRM confirmation sampling program also includes conducting a visual assessment for residual LNAPL in existing and proposed new monitoring points (monitoring wells/piezometers) to document that LNAPL has been successfully removed from the surface of the groundwater.

The post-IRM confirmation sampling program is described in detail in Attachment 3 to this Revised IRM RAWP.

SECTION 7

REPORTING

7. REPORTING

Quarterly progress reports will be prepared in accordance with N.J.A.C. 7:26E-6.5 and 6.6 and the USEPA March 30, 2005 approval letter. The progress reports will include a discussion of:

- All remedial actions accomplished during the reporting period;
- Any proposed deviations from and/or modifications to the approved IRM Plan;
- Problems or delays in the implementation of the IRM Plan and proposed corrective actions, including schedule adjustments and the status of permit applications;
- Annual remediation costs incurred;
- Remedial activities planned for the next reporting period;
- Additional information required for oversight, if applicable, including tabulation of sample results, waste classification data, a listing of all types and quantities of waste generated, etc; and
- Additional documentation (e.g., photographs), as appropriate.

SECTION 8

IMPLEMENTATION SCHEDULE

8. IMPLEMENTATION SCHEDULE

The implementation schedule is presented as Figure 6. The start date has been estimated assuming NJDEP and USEPA approval within 30 calendar days of their receipt of this submission. It should be noted that timely agency review and approval of work plans and permit applications is critical to implementation of the proposed schedule. If additional information or analysis is requested by NJDEP and/or USEPA during the review process, start of the work could be delayed. If the start date is delayed for any reason, the schedule will be updated as appropriate and resubmitted to NJDEP and USEPA upon approval.

SECTION 9

REFERENCES

9. REFERENCES

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FIGURES

WESTON SOLUTIONS SM

Weston Solutions, Inc.
205 Campus Drive Edison, New Jersey 08837-3939
TEL: (732) 417-5800 Fax: (732) 417-5801
http://www.westonsolutions.com

REPORT DATE: February 2010	PROJECT MANAGER: D. Kopcow	CLIENT NAME: Hatco Corporation	DRAWING TITLE: Site Location Map With Monitoring Wells
DRAWING: 07387_Site_Loc.mxd PATH: P:/Hatco/GIS/MXD/1209_IRM_RAWP_Response	CHECKED BY: J. Soukup		
REVISION No. 0	CONTRACT No. DELIVERY ORDER NO.	PROJECT NAME: Interim Remedial Measure	
WORK ORDER No. 13067.001.002.8018	DRAWN/MODIFIED BY: J. Lynes DATE CREATED: 06/29/2009		FIGURE: 1 SCALE: 1" = 100' DATE: 2/22/2010

P:\Hatco\GIS\MXD\1209_IRM_RAWP_Response\07522_LNAPL_plume.mxd

SOURCE:
2007 - 2008 High Resolution Orthophotography. NJ Office of Information Technology (NJOIT), Office of Geographic Information Systems (OGIS). October 2008. http://njgin.nj.gov/OIT_IW/index.jsp

LEGEND: 100 50 0 100 Graphic Scale In Feet	TITLE: Extent of LNAPL Plume Hatco Site Fords, NJ	DRAWN BY: J. Lynes REVIEWED BY: J. Soukup PROJECT MANAGER: D. Kopcow SCALE: 1" = 100'	N / W / E / S
PROJECT: Interim Remedial Measure			
CLIENT NAME: Hatco Corporation	WESTON SOLUTIONS	DRAWING NUMBER: 07522	FIGURE #: 2	DATE: 1/28/2010

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S

REPORT DATE: February 2010	PROJECT MANAGER: D. Kopcow
DRAWING: 07482_LNAPL_sample_data.mxd	CHECKED BY: J. Soukup
PATH: P:/Hatco/GIS/MXD/ 1209_IRM_RAWP_Response	REVISION No. 0
WORK ORDER No. 13067.001.002.8018	DRAWN/MODIFIED BY: C Ricks DATE CREATED: 01/12/2010

CLIENT NAME: Hatco Corporation

PROJECT NAME: Interim Remedial Measure

DRAWING TITLE: LNAPL Plume Samples Hatco Site Fords, NJ

FIGURE:	SCALE:	DATE:
3	1" = 100'	02/22/2010

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205 Campus Drive Edison, New Jersey 08837-3939
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N W E S

REPORT DATE: February 2010	PROJECT MANAGER: D. Kopcow
DRAWING: 07646_LNAPL_Excavation_BG.mxd PATH: P:/Hatco/GIS/MXD/ 1209_IRM_RAWP_Response	CHECKED BY: A. Garrison
REVISION No. 0	CONTRACT No. DELIVERY ORDER NO.
WORK ORDER No. 13067.001.002.8018	DRAWN/MODIFIED BY: J. Lynes DATE CREATED: 02/12/2010

CLIENT NAME: Hatco Corporation

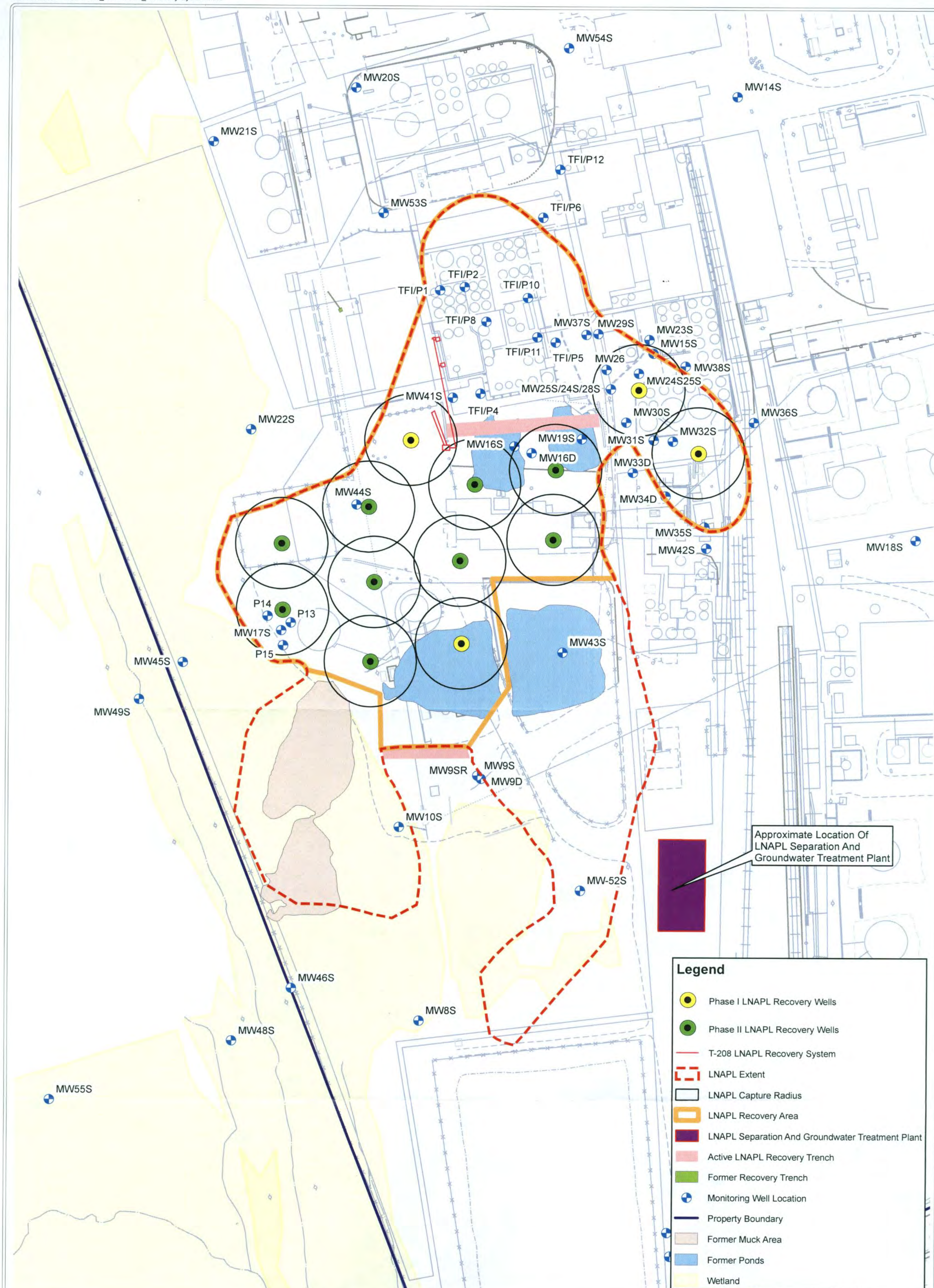
PROJECT NAME: Interim Remedial Measure

DRAWING TITLE:

LNAPL Recovery / Excavation Areas And Above and Below Ground Property Features

FIGURE: 4 | SCALE: 1" = 50' | DATE: 02/12/2010

P:/Hatco/GIS/MXD/0809_IRM/07521_Recovery System.mxd



LEGEND:

100 50 0 100

Graphic Scale In Feet

PROJECT: Interim Remedial Measure

CLIENT NAME: Hatco Corporation

TITLE:

LNAPL Recovery System Layout
Hatco Site
Fords, NJ

WESTON SOLUTIONS

DRAWING NUMBER: 07521

FIGURE #: 5

DRAWN BY: J. Lynes

REVIEWED BY: J. Soukup

PROJECT MANAGER: D. Kopcow

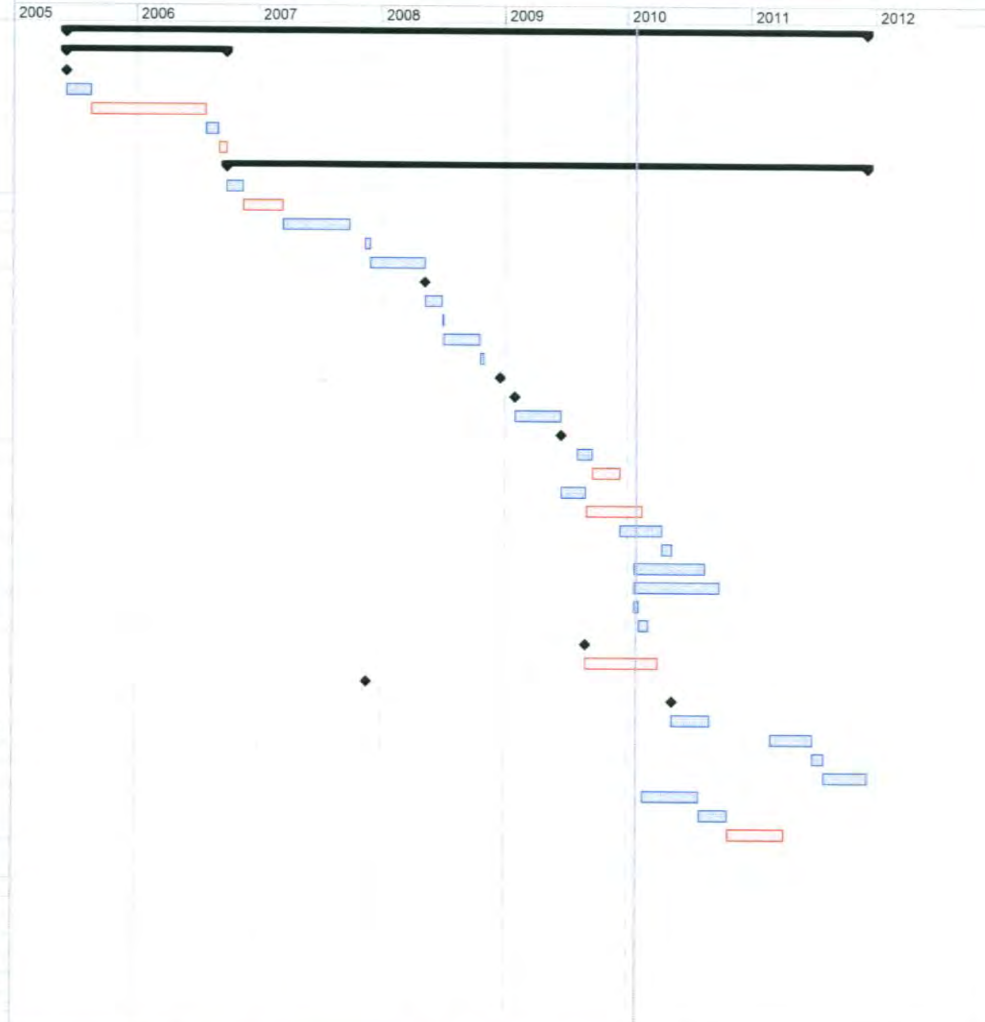
SCALE: 1" = 100'

DATE: 1-29-10

N E S W

Project Implementation Schedule
Hatco Site - Fords, NJ
Figure 6

ID	Task Name	Duration	Predecessors
1	**Pre-Remediation**	**1697 days**	
2	**ACO**	**342 days**	
3	ACO Effective Date	0 days	
4	Consolidated RAWP Preparation & NJDEP Submittal	54 days	3
5	NJDEP Review	243 days	4
6	Consolidated RAWP Addendum Nos. 1 & 2 Preparation	28 days	5
7	NJDEP Review & Approval of Consolidated RAWP	17 days	6
8	**FIELD VERIFICATION AND PILOT STUDIES**	**1355 days**	
9	Sampling & Analysis Plan Preparation	35 days	7
10	NJDEP Review	84 days	9
11	Verification Sampling and Analysis	143 days	10
12	Excavation Pilot Study Implementation	13 days	
13	Excavation Pilot Study Data Evaluation	115 days	12
14	Excavation Pilot Study Progress Report Submittal	0 days	13
15	LNAPL Pilot Study Preparation	36 days	14
16	LNAPL Pilot Study Implementation	3 days	15
17	LNAPL Pilot Study Data Evaluation & Modeling	77 days	16
18	LNAPL Pilot Study Progress Report Submittal	8 days	17
19	2007 Data Progress Report Submittal	0 days	12
20	Meeting with NJDEP & USEPA	0 days	14,18,19
21	Await NJDEP/USEPA Response on Remediation Approach	97 days	20
22	Meet with NJDEP & USEPA	0 days	21
23	IRM RAWP Preparation and Submittal	33 days	22
24	NJDEP & USEPA Review & Approval of IRM RAWP	58 days	23
25	RAWP Addendum No. 3 Preparation	53 days	22
26	NJDEP & USEPA Review & Approval of RAWP Addendum 3	120 days	25
27	Design Phase I Active LNAPL Recovery System	89 days	24
28	Procure Phase I Active LNAPL Recovery System	21 days	27
29	NJDEP Air Permit	150 days	27SS+30 days
30	NJDEP Water Diversion Permit	180 days	27SS+30 days
31	MCUA Discharge Permit Preparation	10 days	27SS+30 days
32	MCUA Review and Issuance of Discharge Permit	20 days	31
33	Wetlands GP #4 and Flood Hazard Area Permit Applications Submittal	0 days	22
34	NJDEP Review & Issuance of Wetlands GP #4 and Flood Hazard Area Permits	154 days	33
35	Feehold Soil Cons. Dist. Approve SESC	0 days	11
36	Mobilize On Site	0 days	28
37	Install & Startup Phase I Active LNAPL Recovery System	80 days	36
38	Design Phase II Active LNAPL Recovery System	88 days	46SS+128 days
39	Procure Phase II Active LNAPL Recovery System	23 days	38
40	Install & Startup Phase II Active LNAPL Recovery System	90 days	39
41	Final Grade & Stormwater Design Plan	120 days	26
42	RAWP Addendum No. 4 Preparation & Submittal	60 days	41
43	NJDEP, USEPA, Woodbridge Twp & Freehold SCD Review & Approval of RAWP Addendum No. 4	120 days	42
44	**Remediation**	**1777 days**	
45	**LNAPL Recovery**	**1635 days**	
46	Operate Phase I Active LNAPL Recovery System	1635 days	
47	Operate Phase II Active LNAPL Recovery System	1306 days	
48	**ON-SITE SOILS**	**591 days**	
49	Soil Excavation in Wetlands	90 days	
50	Soil with PCBs > 500 ppm Excavation in LNAPL Plume	53 days	
51	Soil with PCBs > 500 ppm Excavation Hot Spots	70 days	
52	Scrape Areas A, B, C, D Excavation	10 days	
53	Cap Area Hot Spot Excavation	40 days	



Project: Hatco Schedule 012210.mpp
Date: Mon 1/25/10

Task | Progress | Summary | External Tasks | Split
Split | Milestone | Project Summary | External MileTask

Project Implementation Schedule
Hatco Site - Fords, NJ
Figure 6

ID	Task Name	Duration	Predecessors
54	Reuse of Overburden	35 days	
55	Wetland Restoration	30 days	
56	**OFF-SITE SOILS**	**150 days**	
57	Channels A, B, and C Excavation & Restoration	60 days	
58	Channel D Excavation & Restoration	60 days	
59	Welands Restoration	30 days	
60	**SOIL CAP**	**90 days**	
61	Regrade Soil Cap Area	30 days	
62	Soil Cap Placement	60 days	
63	**ASPHALT CAP**	**100 days**	
64	Regrade Asphalt Cap Area	30 days	
65	Asphalt - Over Existing Pavement	20 days	
66	Asphalt - Over Gravel	20 days	
67	Asphalt - Over Soil	30 days	
68	**Post-Remediation**	**2730 days**	
69	**O&M**	**2629 days**	
70	**WETLANDS RESTORATION**	**1095 days**	
71	Wetlands Restoration Monitoring (3 years)	1095 days	
72	**LNAPL RECOVERY**	**2610 days**	
73	Post-Recovery LNAPL Sampling	180 days	
74	Passive LNAPL Trenching (10 years)	2610 days	
75	**SHALLOW WELL MONITORING MNA**	**523 days**	
76	Shallow Well Monitoring/MNA (2 years)	523 days	
77	**DEEP WELL MONITORING**	**523 days**	
78	Deep Well Groundwater MNA (2 years)	523 days	
79	**ASHPHALT/SOIL CAP**	**2620 days**	
80	Asphalt Cap O&M (10 years)	2610 days	
81	Soil Cap O&M (10 years)	2610 days	
82	Sediment Monitoring (3 years)	784 days	
83	**Final Reports**	**2711 days**	
84	**DEMOBILIZATION**	**30 days**	
85	Demobilization	30 days	
86	**FINAL REPORTS**	**2711 days**	
87	Final LNAPL RA Report Prep & Approval	90 days	
88	Receive LNAPL NFA	30 days	
89	Final Soil & Sediment RA Report Prep & Approval	90 days	
90	Final GW RA Report	90 days	
91	Receive Soil & Sediment NFA	30 days	
92	CEA Removal & Receipt of GW NFA	30 days	
93	NJDEP Release from ACO	30 days	

2005 2006 2007 2008 2009 2010 2011 2012

Project: Hatco Schedule 012210.mpp
Date: Mon 1/25/10

Task | Progress | Summary | External Tasks | Split
Split | Milestone | Project Summary | External MileTask

ATTACHMENT 1

LNAPL DATA SUMMARY

Table 1
Summary of Detected Organic Compounds and Physical Properties of LNAPL Samples - URS

Sample	Date	Benzene (ppm)	1,2-DCE (ppm)	Ethylbenzene (ppm)	2-hexanone (ppm)	PCE (ppm)	Toluene (ppm)	TCE (ppm)	Total xylenes (ppm)
PROD 15s	5/14/1992	ND	ND	ND	ND	ND	ND	ND	57000
PROD 15s	10/21/1992	1400	ND	ND	ND	ND	930	300 J	20000
PROD 15s	5/26/1994	800	ND	37	210	ND	1200	320	3600
PROD 26s	9/20/1994	1100	ND	ND	ND	ND	1700	ND	170
PROD 28s	4/25/1994	920	68	19 J	ND	34	1700	280	140
PROD 28s	5/26/1994	940	83	28 J	ND	35 J	1700	300	160
PROD 30s	4/8/1994	170	79	14 J	ND	ND	3000	79	57
PROD 30s	5/27/1994	180	ND	ND	ND	ND	2900	100	39 J
PROD 30s	4/6/1994	1400	ND	42	ND	ND	1800	ND	320
PROD 31 s	5/27/1994	710	ND	24 J	ND	ND	1600	ND	180
PROD 32s(A)	4/25/1994	1500	ND	38 J	ND	ND	1800	ND	290
PROD 32s(B)	4/25/1994	1500	ND	32 J	ND	ND	1900	ND	300
PROD 32s(A)	5/27/1994	1400	ND	29 J	ND	ND	1800	ND	280
PROD 32s(B)	5/27/1994	1400	ND	36 J	ND	ND	1800	ND	280

Sample	Date	BEHP (ppm)	butylbenzyl-phthalate (ppm)	diethyl-phthalate (ppm)	di-n-butyl-phthalate (ppm)	di-n-octyl-phthalate (ppm)	TPH (ppm)	Aroclor 1248 (ppm)	Viscosity (centistokes)	Specific Gravity (@22 C)
PROD 15s	5/14/1992	430 J	110 J	ND	200 J	ND	NA	2800	NA	NA
PROD 15s	10/21/1992	20000	9000	2800	12000	1800	NA	13000	NA	NA
PROD 15s	5/26/1994	7200	11000	3000	14000	2700	NA	7900	13.2	0.91
PROD 15s	11/17/1994	NA	NA	NA	NA	NA	54000	NA	NA	NA
PROD 25s	12/10/1993	1100	530	140	430	130	NA	15000	NA	NA
PROD 26s	9/20/1994	51000	18000	4200	23000	5800	NA	1200	13.62	0.92
PROD 28s	4/25/1994	32000	15000	ND	14000	2900	NA	7200	NA	NA
PROD 28s	5/27/1994	33000	16000	3200	14000	3700	NA	6000	11.8	0.9
PROD 30s	4/8/1994	72000	8800	14000	17000	5800	NA	1300	NA	NA
PROD 30s	5/27/1994	92000	11000	17000	13000	6300	NA	1500	13.3	0.91
PROD 31s	4/6/1994	42000	16000	4100 J	22000	3100 J	NA	1200	11.6	0.91
PROD 31 s	5/27/1994	44000	18000	2900	17000	4300	NA	1400	12.6	0.92
PROD 31 s	9/20/1994	NA	NA	NA	NA	NA	NA	90000	NA	NA
PROD 31 s	11/16/1994	NA	NA	NA	NA	NA	79,900	NA	NA	NA
PROD 32s(A)	4/25/1994	41000	18000	5500	24000	4100	NA	1700	12.04	0.91
PROD 32s(B)	4/25/1994	39000	16000	ND	23000	3700	NA	1600	11.72	0.91
PROD 32s(A)	5/27/1994	40000	17000	5800	24000	3800	NA	1500	11.2	0.92
PROD 32s(B)	5/27/1994	26000	12000	3700	16000	2800	NA	1800	11.4	0.91
PTW-1	5/13/1999	61000	22000	3500	24000	14000	NA	5500	16.1	0.927
PTW-14/15	5/13/1999	48000	23000	13000	22000	12000	NA	2100	19.3	0.93
PTW-23	5/13/1999	45000	62000	3400	20000	8200	NA	7000	19.3	0.945

Note:

J = Estimated concentration
ND = Not detected.
NA = Not analyzed.
1,2-DCE = 1,2-dichloroethene
PCE = tetrachloroethylene
TCE = trichloroethylene
BEHP = bis(2-ethylhexyl)phthalate
TPH = total petroleum hydrocarbons

Table 2
2006 LNAPL Fingerprint Sample Analytical Results
Hatco Corporation Site
Fords, New Jersey

Well	PCB Detects (ug/kg)	Dilution Factor	Viscosity Kinematics @ 15°C (cSt)	Viscosity Kinematics @ 25°C (cSt)	Specific Gravity @ 60°F	Surface Tension @ 15°C (dynes/cm)	Interfacial Tension @ 15°C (dynes/cm)	GC/FID Fingerprint
MW-17S	Aroclor 1248: 3,800,000	200	66.79	50.84	0.9622	32	27.1	Contains no detectable petroleum distillate product. Consists of a mixture of Phthalate Esters, and other non-petroleum based organics.
MW-32S	Aroclor 1248: 1,300,000	100	17.96	14.63	0.9195	32	20.1	Contains no detectable petroleum distillate product. Consists of a mixture of Phthalate Esters, Alcohols, Ketones, and other non-petroleum based organics
MW-43S	Aroclor 1248: 12,000,000	1000	48.86	37.67	0.9586	35	25.2	Contains no detectable petroleum distillate product. Consists of a mixture of Phthalate Esters, and other non-petroleum based organics.
MW-50S	Aroclor 1248: 800,000	100	172.75	122.09	0.9861	34	35.6	Contains no detectable petroleum distillate product. This product is identified as bis(2-thylhexyl)phthalate
MW-52S	Aroclor 1248: 2,400,000	200	30.84	24.31	0.9668	33	25.6	Contains no detectable petroleum distillate product. Consists of a mixture of Phthalate Esters, Alcohols, Ketones, and other non=petroleum based organics.
TF1\P-5	Aroclor 1248: 1,800,000	200	28.78	22.83	0.9307	34	16.9	Contains no detectable petroleum distillate product. Consists of a mixture of Organic Acids, Ketones, Esters, Phthalate Esters, and other non-petroleum organics.

NOTES:

C - Celsius

cSt - centistroke/centistoke: A centimeter=gram-second unit of kinematics viscosity - 1/100 of a stroke. Also a term used for synthetic oil. The smaller the # the easier to pour.

dynes/cm - dynes per centimeter: the standard centimeter-gram-second unit of force, equal to the force that produces an acceleration of one centimeter per second on a mass of 1 gram

F - Fahrenheit

FID - Flame Ionization Detector

GC - Gas Chromatography

PCB - Polychlorinated Biphenyls

ug/kg - micrograms per kilogram

Table 3
2007 LNAPL Sample Analyses

Sample ID	MW-52S 092407	MW-43S 092407	MW-50S 092507	TF-1/P12 092507	9A 092507
Lab ID	SA68695-01	SA68695-02	SA68695-03	SA68695-04	SA68695-05
Sampling Date	9/24/2007	9/24/2007	9/25/2007	9/25/2007	9/25/2007
Matrix	Oil/Water*	Oil/Water*	Oil/Water*	Oil/Water*	Oil/Water*
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
VOCs					
Benzene	5500 U	26,500 J	3500 J	40,000 J	2,800 J
n-Butylbenzene	4500 U	4500 U	12800 J	4500 U	450 U
sec-Butylbenzene	6000 U	6000 U	6,850	6000 U	600 U
2-Chlorotoluene	935,000	2,200,000	33,600	59,500	500 U
4-Chlorotoluene	528,000	1,100,000	3950 J	43,000 J	600 U
1,2 Dichlorobenzene	11500 U	11500 U	3,250 J	11500 U	1150 U
1,4 Dichlorobenzene	7000 U	7000 U	6,550	7000 U	700 U
Ethylbenzene	6000 U	6000 U	16,400	35,500 J	600 U
Isopropylbenzene	6500 U	6500 U	102,00	79,500	650 U
4-Isopropyltoluene	600 U	6000 U	3,550 J	6000 U	600 U
Naphthalene	221000**	378,000	29,000	288,000	900 U
n-Propylbenzene	7000 U	7000 U	39,600	7000 U	700 U
Toluene	2,820,000	5,690,000	3,100 J	130,000	6,550
Trichloroethene	5500 U	120,000	550 u	5500 U	550 U
1,2,4 Trimethylbenzene	6000 U	6000 U	18,300	63,500	600 U
1,3,5 Trimethylbenzene	6000 U	6000 U	2,550 J	34,500 J	600 U
m,p-Xylenes	25000 J	46,500 J	14,700	124,000	1150 U
o-Xylenes	9000 U	9000 U	17,600	4,150,000	3,200 J
Total VOC TICs	607,000	2259000	171,900	3,634,000	126000
SVOCs					
Bis (2-ethylhexyl) phthalate	38,200,000	66,300,000	235,000,000	12,000,000	88,800,000
Butyl benzyl phthalate	71,500,000	64,500,000	749,000	233,000	4,790,000
Diethyl phthalate	2,840,000	163000 J	29000 U	11600 U	18400 U
Dimethyl phthalate	161000 J	13400 U	25200 U	10100 U	16000 U
Di-n-butyl phthalate	12,200,000	12,900,000	23600 U	1,620,000	3,480,000
Di-n-octyl phthalate	5,160,000	8,730,000	2,340,000	1,130,000	11,200,000
Fluoranthene	11900 U	11500 U	179,000 J	8690 U	13700 U
Pyrene	34800 U	33800 U	150,000 J	25400 U	40200 U
Total SVOC TICs	140,160,000	134,570,000	17,150,000	36991000	121550000
PCBs					
PCB 1016	414 U	599 U	608 U	570 U	609 U
PCB 1221	414 U	599 U	608 U	570 U	609 U
PCB 1232	966 U	1400 U	1420 U	1330 U	1420 U
PCB 1242	828 U	1200 U	1220 U	1140 U	1220 U
PCB 1248	2,130,000	3,210,000	416,000	1360 U	3,560,000
PCB 1254	299 U	433 U	439 U	411 U	440 U
PCB 1260	345 U	499 U	506 U	475 U	507 U
PCB 1262	55.2 U	79.8 U	81.0 U	75.9 U	81.2 U
PCB 1268	35.9 U	51.9 U	52.7 U	49.4 U	52.8 U
Total Petroleum Hydrocarbons					
Unidentified petroleum hydrocarbons	1,000,000 mg/kg	1,000,000 mg/kg	1,000,000 mg/kg	1,000,000 mg/kg	1,000,000 mg/kg

**SVOC analysis for this compound indicated naphthalene was non-detect at an MDL of 18900 ug/kg
* Sample collected from LNAPL fraction

ACCREDITED IN ACCORDANCE WITH NELAC
NY Lab #11393/11840
FL Lab # E87600/E87936

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HANIBAL TECHNOLOGY

PETROLEUM PRODUCT ANALYSIS REPORT

Site Location: Hatco
Edison, NJ

Project # 13067.001.002.7004
Lab ID# SA68695-01/06

Presented to:

Weston Solutions, Inc.
205 Campus Drive
Edison, NJ 08837

By:

Hanibal C. Tayeh, Ph.D.
M. Amine Dahmani, Ph.D.

January 22, 2008

Authorized Signature: ______________________________
Hanibal C. Tayeh, Ph.D.

Executive Summary

Based on our education, experience and the analytical testing reflected in the information contained in this report, we have the following opinions to a reasonable degree of scientific certainty about the product sample received from Weston Solutions, Inc.

Opinion 1: Sample **MW-52S 092407** does not contain significant petroleum fuel contamination (gasoline to #6 fuel oil). It is likely, however, that a gasoline contamination is associated with this sample based on the volatile organic compounds detected in the product phase. The sample contains high concentrations of phthalates (plasticizers). These high concentrations indicate a usage of these phthalates for industrial processes. One PCB, Aroclor 1248, was detected at a high concentration (2130 mg/kg).

Opinion 2: Sample **MW-43S 092407** does not contain significant petroleum fuel contamination (gasoline to #6 fuel oil). It is likely, however, that a gasoline contamination is associated with this sample based on the volatile organic compounds detected in the product phase and the associated water phase. The sample contains high concentrations of phthalates (plasticizers). These high concentrations indicate a usage of these phthalates for industrial processes. One PCB, Aroclor 1248, was detected at a high concentration (3210 mg/kg). TCE was also detected in the product sample and the associated water phase.

Opinion 3: Sample **MW-50S 092507** contains weathered gasoline contamination. The absence of organic lead in the sample indicates that the gasoline contamination is from a post-1979 gasoline. The sample contains high concentrations of phthalates (plasticizers). These high concentrations indicate a usage of these phthalates for industrial processes. The sample also contains the PAHs fluoranthene and pyrene, two compounds typically associated with coal tar contamination. One PCB, Aroclor 1248, was detected at a high concentration (416 mg/kg).

Opinion 4: Sample **TF1/P12 092507** contains weathered gasoline contamination. The absence of organic lead in the sample indicates that the gasoline contamination is from a post-1979 gasoline. The sample contains high concentrations of phthalates (plasticizers). These high concentrations indicate a usage of these phthalates for industrial processes. No PCBs were detected in this sample.

Opinion 5: Sample **9A 092507** does not contain significant petroleum fuel contamination (gasoline to #6 fuel oil). It is likely, however, that a gasoline contamination is associated with this sample based on the VOC compounds detected in the product phase and the associated water phase. The sample contains high concentrations of phthalates (plasticizers). These high concentrations indicate a usage of these phthalates for industrial processes. One PCB, Aroclor 1248, was detected at a high concentration (3560 mg/kg).

Opinion 6: A comparison of the fingerprint and chemical makeup of samples **MW-43S 092407** and **MW-52S 092407** indicates that the contaminant source of these samples is similar. The presence of TCE in **MW-43S 092407** indicates a solvent contamination, as well.

Opinion 7: Samples **MW-50S 092507**, **TF1/P12 092507** and **9A 092507** also have a contaminant signature that is similar to **MW-43S 092407** and **MW-52S 092407**, although the gasoline signature is more evident in samples **MW-50S 092507** and **TF1/P12 092507**. This indicates that the contaminant source of these samples is likely to be similar. Note, however, the absence of the PCB 1248 in sample **TF1/P12 092507**.

Our opinions are based upon information received and considered as of January 22, 2008. Any new information provided after this date is not included in this report. We reserve the right to amend or supplement our opinions in consideration of any new information received.

Table of Contents

1.0 INTRODUCTION

Spectrum Analytical, Inc. (SAI) was retained by Weston Solutions, Inc. to identify the age of the petroleum product(s) associated with the oil/water samples provided and render opinions regarding the product(s).

1.1 Professional and Educational Credentials

1.1.1 Hanibal C. Tayeh

Dr. Tayeh obtained his Bachelor of Science in Chemical Engineering from the University of Baghdad in Iraq. He went on to achieve a Master of Science and Doctorate of Philosophy in Environmental Engineering from Madison University in Gulfport, MS where he graduated Summa cum Laude. His professional experience includes working as a chemical engineer responsible for project design, management and implementation, research and development as well as quality control. In 1991, he began his career with Spectrum Analytical, Inc. and is now the laboratory's President-CEO-Laboratory Director. Dr. Tayeh is also an adjunct professor at the Environmental Science Program of the University of Massachusetts in Amherst.

Dr. Tayeh has twenty-one (21) years of managerial, Quality Assurance/Quality Control (QA/QC) and Research and Development (R&D) experience. This includes the development and implementation of various environmental analytical methods to identify and quantify total petroleum hydrocarbons by gas chromatography (GC), polynuclear aromatic hydrocarbons by gas chromatography/mass spectrometry (GC/MS), polychlorinated biphenyls (PCBs) and chlorinated hydrocarbons pesticides by gas chromatography/Electron Capture Detector (GC/ECD) as well as volatile organic compounds via GC/MS. Dr. Tayeh performed all quality assurance/quality control (QA/QC) and method detection limit studies related to these methods and their implementation in the laboratory. Dr. Tayeh was also instrumental in the development of the Massachusetts Department of Environmental Protection (MADEP) methods for petroleum hydrocarbon determination, Extractable Petroleum Hydrocarbon (EPH) and Volatile Petroleum Hydrocarbon (VPH) with his direct involvement with the Mass DEP technical team in Lawrence and Boston, Massachusetts, to support the finalization of these particular methods.

Dr. Tayeh's research and experience has led him to develop an innovative analytical method for the determination of petroleum hydrocarbons, total petroleum hydrocarbon technique (TPHT). He has presented this method to University of Massachusetts, Amherst and has conducted several technical seminars with environmental consultants pertaining to this technique. He has also utilized this method with various environmental consulting firms to provide support services associated with property transfer, insurance litigation from a release of contaminants, and cost/responsibility allocation at Superfund sites and other contaminated sites in terrestrial, marine or atmospheric environments.

1.1.2 M. Amine Dahmani

Dr. Dahmani obtained his Bachelor of Science, Master of Science and Ph.D in Petroleum Engineering from Louisiana State University. He worked in the oil industry for four years before joining the Civil and Environmental Engineering Department at the University of Connecticut (UCONN) in 1990 as an Assistant Professor in Residence, to work on petroleum related environmental problems. He was the Director of the Site Assessment and Remediation laboratories at the Environmental Research Institute at UCONN before joining SAI as the Section Team Leader of Research and Development in June 2005. He has conducted numerous studies in site assessment, remediation, environmental forensics, and environmental monitoring. He was instrumental in the development of two important remediation technologies, namely air sparging and chemical oxidation. His knowledge of petroleum products and fate and transport of petroleum contaminants is critical in the conduct of forensic studies. Dr. Dahmani has also served as Adjunct Professor in the Civil and Environmental Engineering Department at UCONN.

1.2 SAI Company Profile

SAI occupies two locations in Agawam, MA, covering over 25,000 square feet of laboratory space. It has over 100 employees. The labs are equipped with state-of-the-art technology to automate analyses and ensure data accuracy. In order to provide consistently reliable data, SAI's QA/QC standards include a strict adherence to good laboratory practices, peer review of data, and organized operational processes.

SAI is certified in accordance with the National Environmental Laboratory Accreditation Conference (NELAC). The laboratory continuously reviews updates from NELAC, as well as other state agencies, and implements these changes into its daily operational procedures. SAI also continues to improve its quality standards with periodical audits by NELAC. This dedication provides clients with an assurance to meet project quality objectives and maintain data consistency between projects.

SAI has recently opened a second laboratory in Tampa, Fl.

1.3 Overview of Petroleum Chemical Fingerprinting

Chemical fingerprinting is an analytical chemistry tool that can help in the evaluation of chemical compound distributions in complex chemical mixtures using various analytical instruments. The most common chemical fingerprinting techniques for petroleum products use high-resolution gas chromatography. These techniques can distinguish among various fuel types that may be commingled at a given location by providing individual fingerprints of petroleum types.

The types of hydrocarbons that can be identified using chemical fingerprinting include gasoline, diesel, #2 Fuel Oil, jet fuel, kerosene, Stoddard solvent, #4 Fuel Oil, hydraulic oil etc. In order to identify the type of hydrocarbons, pattern recognition based on reference standards can be performed. In addition, pattern matching of gas chromatographic fingerprints of different samples can be conducted. Compounds that can be used in pattern recognition analysis for diesel and #2 fuels include normal alkanes and isoprenoids, alkylcyclohexanes, as well as biomarkers such as sesquiterpanes, diterpanes, triterpanes and steranes. Biomarkers are any of a suite of chemical compounds that may indicate biological involvement in the formation of petroleum.

1.4 Overview of Petroleum Weathering

Petroleum weathering is the impact of chemical, physical and biological forces on the chemical and physical compositions of petroleum mixtures. The primary weathering processes that affect petroleum hydrocarbons include evaporation, solubilization and biodegradation.

Evaporation is a weathering process that selectively removes compounds with lower molecular weights, lower boiling points and lower vapor pressures. The lighter the petroleum product, the more prone it is to evaporation. However, the conditions under which a petroleum release occurs will determine the degree of evaporation of the petroleum mixture. Temperature, wind, impacted medium (soil, water, cement, pipe), rate of release of the petroleum product will significantly affect the rate of evaporation of the lighter compounds.

Solubilization is the transfer of petroleum compounds from the petroleum phase to the water phase. Solubilization is a function of the molar concentration of a compound in a mixture and its relative solubility in water compared to its solubility in the petroleum phase. Hydrocarbons with the highest solubility in water would be dissolved more easily in water than compounds with lower water solubilities. Solubilization affects primarily petroleum products in contact with surface or ground water.

Biodegradation of petroleum hydrocarbons is the result of microbial action. If the right conditions are present in terms of nutrient and oxygen availability and an energy source, indigenous microbial populations in soils are capable of degrading petroleum products. This leads to the decrease or destruction of a portion of the hydrocarbon product and results in higher concentrations of the less biodegradable compounds.

The weathering terms used to support this professional opinion for each individual sample were referenced from the book "Introduction to Environmental Forensics", Chapter 6.

2.0 METHODOLOGIES

2.1 Sample Log-in Procedures

The oil/water samples collected on September 24 and 25, 2007 and the trip blank were received at the laboratory on September 26, 2007 via Federal Express. As per the chain of custody, each oil/water sample was contained in three HCl preserved 40-mL VOA vials, one unpreserved amber glass liter bottle, one HCl preserved amber glass liter bottle, and one unpreserved plastic liter bottle. The trip blank was contained in one HCl preserved 40-mL VOA vial. The samples were received on ice at 2.5 degrees Celsius. Only the product layer of each sample was analyzed

For comparison and verification purposes, Spectrum analyzed several quality control and petroleum reference samples. The following summarizes the petroleum reference samples:

- 100 ug/L Aliphatic Standards
- #2 Fuel Oil Continuing calibration Check Standard (CCC)
- 20 ug/L Volatile Organic Laboratory Control sample (LCS)
- 50 ug/L Volatile Organic Continuing Calibration Check sample (CCC)

Sample identification and the assigned laboratory number are as follows:

Sample ID	Matrix	Lab. ID#
MW-52S 092407	Product	SA68695-01
MW-43S 092407	Product	SA68695-02
MW-50S 092507	Product	SA68695-03
TF1/P12 092507	Product	SA68695-04
9A 092507	Product	SA68695-05
Trip Blank 092507	Aqueous	SA68695-06

2.2 Semi-volatile Organic Compound Analysis

2.2.1 Technique

In order to determine the type or types of parent products associated with the forensic sample SVOC methods are employed. The SW846 8100 method is designed for the identification and quantitation of total petroleum hydrocarbons (TPH) in aqueous and soil or product samples by the use of capillary column gas chromatography / flame ionization detector (GC/FID) instrumentation. The SW846 8270C method is designed for the identification and quantitation of semi-volatile organic compounds (SVOCs), such as organic lead, in aqueous and soil or product samples by the use of capillary column gas chromatography / mass spectrometry (GC/MS) instrumentation.

Samples in a liquid state are injected into a capillary column at an elevated temperature through which a carrier gas flows. The column is temperature-programmed to separate the compounds, which are then detected by a mass spectrometer (MS) and/or flame ionization detector (FID) interfaced to the gas chromatograph (GC).

Qualitative analysis is accomplished by comparing the chromatogram of the target compound with prepared standards, and by GC retention times.

2.2.2 Preparation of Samples

Samples for all of the SVOC analyses used for this project are prepared similarly. Different internal standards and surrogates may be used specific to each method as explained in Spectrum's Standard Operating Procedure (SOP) for each method.

The product samples were extracted following USEPA's SW846-3550B ultrasonic method. A specific mass (in grams) of each product sample and petroleum standard was extracted with a pre-defined volume (mL) of methylene chloride (solvent extraction). A 1 µL aliquot from each sample was then injected into the appropriate instrument for analysis.

2.2.3 Operating Conditions

2.2.3.1 Total Petroleum Hydrocarbons by SW846 8100

A 1 µL aliquot from each sample was injected into Spectrum's GC/ FID system for analysis. The extracts were analyzed by a Hewlett Packard capillary GC/FID system equipped with 30-meter HP-5 column (0.32 mm I.D, 0.25 µm film thickness) and a flame ionization detector (FID). The resulting chromatogram was compared to a library of petroleum product chromatograms. The compound concentration was calculated using peak area compared against the matching compound in the library.

OPERATING CONDITIONS FOR TPH (HP15&16)

Total run time = 16.25 min
Inlet A pressure = 23 psi
Inlet A temp = 260 °C
Total flow = 58.6 mL/min

Oven temp 1 = 60°C	Time 1 = 2 min	Ramp rate 1 = 30.0°C/min
Oven temp 2 = 150°C	Time 2 = 0.0 min	Ramp rate 2 = 35.0°C/min
Oven temp 3 = 310°C	Time 3 = 5.43 min	Ramp rate 3 = 40.0°C/min
Oven temp 4 = 320°C	Time 4 = 1.00 min	Ramp rate 4 = 0.0°C/min

2.2.3.2 Semi-Volatile Organic Compounds by Mod. SW846 8270C

A 1 µL aliquot from each sample was then injected into a Hewlett Packard GC/MS system for analysis. The extracts were analyzed by a new high resolution, capillary gas chromatography (GC)/mass spectrometry system equipped with 30-meter HP-5MS column (0.25 mm I.D, 0.25 µm film thickness). A new HP-GC gas chromatography-auto-system (HP-6890) equipped with a mass selective detector 5973N was utilized. The MS was operated under the scan model from m/z 35 to m/z 350. The GC/MS system includes the total ion GC fingerprint trace and the mass spectrum of each peak. Based on the mass spectrum of each peak, the peak identification was achieved by the combination of NIST2002 mass spectra library search and the author's best knowledge. The area counts of each total ion peak were integrated by HP Chemstation software. The compound concentration was calculated using peak area and described as the percentage of each compound in the sample.

OPERATING CONDITIONS FOR SW846 8270C

Total run time = 22.5 min
Inlet pressure = 8.29 psi
Inlet temp = 260 °C
Inlet flow = 34.1 mL/min

Oven temp 1 = 40°C	Time 1 = 30 sec	Ramp rate 1 = 15.0°C/min
Oven temp 2 = 100°C	Time 2 = 0.0 min	Ramp rate 2 = 20.0°C/min
Oven temp 3 = 240°C	Time 3 = 0.0 min	Ramp rate 3 = 10.0°C/min
Oven temp 4 = 310°C	Time 4 = 4.0 min	Ramp rate 4 = 0.0°C/min

2.2.3.3 Organic Lead by Mod. SW846 8270C

A 1 µL aliquot from each sample was then injected into a Hewlett Packard GC/MS system for analysis. The extracts were analyzed by a new high resolution, capillary gas chromatography (GC)/mass spectrometry system equipped with 30-meter HP-5MS column (0.25 mm I.D, 0.25 µm film thickness). A new HP-GC gas chromatography-auto-system (HP-6890) equipped with a mass selective detector 5973N was utilized. The MS was operated under the scan model from m/z 35 to m/z 350. The GC/MS system includes the total ion GC fingerprint trace and the mass spectrum of each peak. Based on the mass spectrum of each peak, the peak identification was achieved by the combination of NIST2002 mass spectra library search and the author's best knowledge. The area counts of each total ion peak were integrated by HP Chemstation software. The compound concentration was calculated using peak area and described as the percentage of each compound in the sample.

OPERATING CONDITIONS FOR ORGANIC LEAD

Total run time = 155.33 min
Inlet B temp = 110 °C
Detector B temp = 280 °C

Oven temp 1 = 40°C	Time 1 = 1.0 min	Ramp rate 1 = 3.0°C/min
Oven temp 2 = 125°C	Time 2 = 5.0 min	Ramp rate 2 = 10.0°C/min
Oven temp 3 = 335°C	Time 3 = 100 min	Ramp rate 3 = 0.0°C/min

2.2.3.5 PCBs by SW846 8082

A 2 µL aliquot from each sample was then injected into a Hewlett Packard GC/ECD system for analysis. The extracts were analyzed by a new high resolution, capillary gas chromatography (GC)/electron capture detector (ECD) system equipped with two columns. The columns are a 30-meter BD-5MS column (0.53 mm I.D, 1.5 µm film thickness) and a 30-meter RTX-CLPesticides column (0.53 mm I.D, 0.5 µm film thickness). The compound concentration was calculated using peak area, an external calibration, and internal standards and surrogates.

OPERATING CONDITIONS FOR PCBs

Total run time = 13 min
Inlet A temp = 225 °C
Detector A temp = 320 °C
Inlet B temp = 225 °C
Detector B temp = 320 °C

Oven temp 1 = 180°C	Time 1 = 0.5 min	Ramp rate 1 = 12.0°C/min
Oven temp 2 = 225°C	Time 2 = 2.0 min	Ramp rate 2 = 20.0°C/min
Oven temp 3 = 300°C	Time 3 = 3.67 min	Ramp rate 3 = 30.0°C/min

2.2.3.6 Pesticides by SW846 8081A

A 2 µL aliquot from each sample was then injected into a Hewlett Packard GC/ECD system for analysis. The extracts were analyzed by a new high resolution, capillary gas chromatography (GC)/electron capture detector (ECD) system equipped with two columns. The columns are a 30-meter RTX-CLPesticides II column (0.53 mm I.D, 0.42 µm film thickness) and a 30-meter

RTX-CLPesticides column (0.53 mm I.D, 0.5 µm film thickness). The compound concentration was calculated using peak area, an external calibration, and internal standards and surrogates.

OPERATING CONDITIONS FOR PESTICIDES

Total run time = 14 min
Inlet temp = 210 °C
Detector temp = 320 °C

Oven temp 1 = 170°C	Time 1 = 1.0 min	Ramp rate 1 = 20.0°C/min
Oven temp 2 = 245°C	Time 2 = 0.0 min	Ramp rate 2 = 6.0°C/min
Oven temp 3 = 300°C	Time 3 = 0.08 min	Ramp rate 3 = 0.0°C/min

2.2.3.7 Herbicides by SW846 8151A

A 2 µL aliquot from each sample was then injected into a Hewlett Packard GC/ECD system for analysis. The extracts were analyzed by a new high resolution, capillary gas chromatography (GC)/electron capture detector (ECD) system equipped with two columns. The columns are a 30-meter RTX-CLPesticides column (0.53 mm I.D, 0.5 µm film thickness) and a 30-meter BD-5MS column (0.53 mm I.D, 1.5 µm film thickness) The compound concentration was calculated using peak area, an external calibration, and internal standards and surrogates.

OPERATING CONDITIONS FOR HERBICIDES

Total run time = 23 min
Inlet temp = 250 °C
Detector temp = 320 °C

Oven temp 1 = 50°C	Time 1 = 0.0 min	Ramp rate 1 = 10.0°C/min
Oven temp 2 = 185°C	Time 2 = 3.0 min	Ramp rate 2 = 15.0°C/min
Oven temp 3 = 230°C	Time 3 = 0.5 min	Ramp rate 3 = 20.0°C/min
Oven temp 4 = 275°C	Time 4 = 0.75 min	Ramp rate 4 = 0.0°C/min

2.2.4 Data Reduction and Calculations

Sequences were created on each instrument and downloaded at the beginning of each sample run. Data files were created within the sequence and data was written to them as each sample was acquired. Each data file was named for the laboratory identification number that was assigned to it at the time of sample receipt. Once the sample completed its run, the analyst then recalled the file, processed the raw data, and calculated the results from the print-outs that are generated for each data file. Samples that contained levels of contamination above the calibration range were rerun at a dilution to bring the contaminants into the calibration range. Similarly, samples that were run at a dilution and had results below detection limit were rerun at a lower dilution to bring the compounds within the calibration range and to provide a lower detection limit. Calculations used in quantifying the results to the analyses are based on the internal standard concentration, dilution factor, and sample weight.

2.2.5 Quality Control and Quality Assurance

Quality control protocols described in Spectrum Analytical, Inc. Standard Operating Procedures For Total Petroleum Hydrocarbons SW846 8100 Method and in Section IX. "Initial Calibration" of Spectrum Analytical, Inc. Standard Operating Procedures For Analysis of Semi-Volatile Organic Compounds by Gas Chromatography Mass Spectrometry: Capillary Column Technique SW846 8270C Method were strictly adhered to for all analyzed samples. The quality control data consists of a method blank sample, a laboratory control sample (LCS), a method calibration summary report along with the appropriate calibration standards raw data, continuing calibration check (CCC) standards and all associated sample and standard chromatograms. Definitions for these quality control samples are provided along with the results of the analyses.

2.3 Volatile Organic Compound Analysis by SW846 8260B GC/MS

2.3.1 Technique

The SW846 8260B method is designed for the identification and quantitation of purgeable volatile organic compounds (VOCs) in aqueous and soil or product samples by the use of capillary column gas chromatography / mass spectrometry (GC/MS) instrumentation.

Purgeable VOCs in an aqueous state are transferred from an aqueous phase to a vapor phase by purging the sample with an inert gas (helium). The purged vapor stream is concentrated on a trap, a stainless steel tube containing sorbent material capable of trapping the purged VOCs. The volatile compounds are then desorbed from the sorbent materials onto a capillary column by back-purging the trap with helium at an elevated temperature. The column is temperature-programmed to separate the compounds, which are then detected by a mass spectrometer (MS) interfaced to the gas chromatograph (GC).

Qualitative analysis is accomplished by comparing the mass spectra of the target analytes with prepared standards, and by GC retention times. Quantitation is achieved by comparing the abundance of a primary characteristic (quantitation) ion to the response of the internal standard using a minimum of a five-point calibration curve.

2.3.2 Preparation of Samples

Due to the low viscosity of the product samples, they were diluted by volume into a known volume of methanol. The solution for each sample was used to make further dilutions that were loaded directly on the instrument.

The water layer of the samples was also analyzed. Sample MW-52S 092407 (SA68695-01) had no available water layer, but all other samples had about 40 mL of water removed by pipette and submitted for analysis. The water samples were diluted as necessary with DI water and loaded directly on the instrument.

2.3.3 Operating Conditions

One Gas Chromatograph/Mass Spectrometer instruments was used to perform analysis for this project. It is equipped with a 20-meter DB-VRX column (0.18 mm I.D, 1 µm film thickness). The operating conditions for these instruments are outlined as follows:

OPERATING CONDITIONS FOR HP#1

TABLE A. Purge and trap (Method No. 1)

Purge ready temp = 35°C	Bake time = 8.00 min
Purge time = 9.00 min	Bake temp = 265°C
Dry purge time = 2.00 min	2016 line = 130°C
Desorb preheat = 245°C	2016 valve = 130°C
Desorb time = 4.00 min	Line temp = 150°C
Desorb temp = 250°C	Valve temp = 150°C
Sample drain = off	MCS bake temp = 310°C
Bgb on delay 2.0 minutes	MCS line temp = 150°C

TABLE B. GC method
Total run time = 16.5
Split ratio = 30:1
Split flow = 16.0 mL/min
Inlet pressure = 10.4 psi
Inlet B temp = 225°C
Detector B temp = 280°C

Temp 1 = 35°C	Time 1 = 4.00 min	Rate 1 = 15.0°C/min
Temp 2 = 220°C	Time 2 = 0.17 min	Rate 2 = 0.0°C/min

2.3.4 Data Reduction and Calculations

As mentioned in Section XIII.C of Standard Operating Procedures For Analysis of Volatile Organic Compounds by EPA 8260B & MADEP WSC-CAM-II A, "Instrument Sequence Creation and Storage", sequences were created on each instrument and downloaded at the beginning of each sample run. Data files were created within the sequence and data was written to them as each sample was acquired. Each data file was named for the laboratory identification number that was assigned to it at the time of sample receipt. Once the sample completed its run, the analyst then recalled the file, processed the raw data, and calculated the results from the print-outs that are generated for each data file. Samples that contained levels of contamination above the calibration range were rerun at a dilution to bring the contaminants into the calibration range. Similarly, samples that were run at a dilution and had results below detection limit were rerun at a lower dilution to bring the compounds within the calibration range and to provide a lower detection limit. Calculations used in quantifying the results to the analyses are based on the internal standard concentration, dilution factor, and sample weight. For detailed descriptions of calculations, please refer to Spectrum Analytical, Inc. Standard Operating Procedures For Analysis of Volatile Organic Compounds by EPA 8260B & MADEP WSC-CAM-II A

2.3.5 Quality Control and Quality Assurance

Quality control protocols described in Section XVIII. "Quality Control and Quality Assurance" of Spectrum Analytical, Inc. Standard Operating Procedures For Analysis of Volatile Organic Compounds by EPA 8260B & MADEP WSC-CAM-II A were strictly adhered to for all analyzed samples. The quality control data consists of a method blank sample, a laboratory control sample, a method calibration summary report along with the appropriate calibration standards raw data, continuing calibration check (CCC) standards, various method tuning criteria and all associated sample and standard chromatograms.

3.0 RESULTS

Appendix A shows the chromatograms associated with the samples from this project.

Sample MW-52S 092407 (SA68695-01) is shown in the first set of figures. Figure 1A shows the GC/MS chromatogram of the sample at a 1:50,000 dilution using method SW846 8260B. Figure 1B shows the GC/FID chromatogram using a modified SW846 8100 method. Figure 1C shows the GC/ MS chromatogram using method SW846 8270C. The PCB chromatograms are shown in Figure 1D, with the sample at a 1:50 dilution. Figure 1E shows the expanded ECD1A chromatogram from Figure 1D. Figure 1F shows the expanded ECD2B chromatogram from Figure 1D.

Sample MW-43S 092407 (SA68695-02) is shown in the second set of figures. Figure 2A shows the GC/MS chromatogram of the product layer of the sample at a 1:50,000 dilution using method SW846 8260B. Figure 2B shows the GC/FID chromatogram of the product layer using a modified SW846 8100 method. Figure 2C shows the GC/ MS chromatogram of the product layer using method SW846 8270C. The PCB chromatograms of the product layer are shown in Figure 2D, with the sample at a 1:50 dilution. Figure 2E shows the expanded ECD1A chromatogram from Figure 2D. Figure 2F shows the expanded ECD2B chromatogram from Figure 2D. Figure 2G shows the GC/MS chromatogram of the water phase of the sample at a 1:100 dilution.

Sample MW-50S 092507 (SA68695-03) is shown in the third set of figures. Figure 3A shows the GC/MS chromatogram of the sample at a 1:5,000 dilution using method SW846 8260B. Figure 3B shows the GC/FID chromatogram using a modified SW846 8100 method. Figure 3C shows the GC/ MS chromatogram using method SW846 8270C. The PCB chromatograms are shown in Figure 3D, with the sample at a 1:50 dilution. Figure 3E shows the expanded ECD1A chromatogram from Figure 3D. Figure 3F shows the expanded ECD2B chromatogram from Figure 3D. Figure 3G shows the GC/MS chromatogram of the water phase of the sample at a 1:5 dilution.

Sample TF1/P12 092507 (SA68695-04) is shown in the fourth set of figures. Figure 4A shows the GC/MS chromatogram of the sample at a 1:50,000 dilution using method SW846 8260B. Figure 4B shows the GC/FID chromatogram using a modified SW846 8100 method. Figure 4C shows the GC/ MS chromatogram using method SW846 8270C. The PCB chromatograms are shown in Figure 4D, with the sample at a 1:50 dilution. Figure 4E shows the expanded ECD1A chromatogram from Figure 4D. Figure 4F shows the expanded ECD2B chromatogram from Figure 4D. Figure 4G shows the GC/MS chromatogram of the water phase of the sample at a 1:100 dilution.

Sample 9A 092507 (SA68695-05) is shown in the fifth set of figures. Figure 5A shows the GC/MS chromatogram of the sample at a 1:5,000 dilution using method SW846 8260B. Figure 5B shows the GC/FID chromatogram using a modified SW846 8100 method. Figure 5C shows the GC/ MS chromatogram using method SW846 8270C. The PCB chromatograms are shown in Figure 5D, with the sample at a 1:50 dilution. Figure 5E shows the expanded ECD1A chromatogram from Figure 5D. Figure 5F shows the expanded ECD2B chromatogram from Figure 5D. Figure 5G shows the GC/MS chromatogram of the water phase of the sample at a 1:5 dilution.

Figure 6A shows the PCB chromatogram for a sample of Aroclor-1248. Figure 6B shows the expanded ECD1A chromatogram from Figure 6A. Figure 6C shows the expanded ECD2B chromatogram from Figure 6A.

Appendix B shows the quality assurance report specific to this project that outlines several data quality interpretations:

-Total petroleum hydrocarbon (TPH) concentration in ppm
-Petroleum fingerprint identification
-Volatile hydrocarbon data via SW846 8260B Method
-PCB data via SW846 8082 Method
-Pesticide data via SW846 8081A Method
-Herbicide data via SW846 8151A Method
-Semi-volatile organic data via SW846 8270C Method
-Organic lead data including tetraethyl and tetramethyl lead
-Various quality control analyses associated with sample batches.

4.0 DISCUSSION

This section provides the results of the analyses conducted in this study.

a) MW-52S 092407 (SA68695-01, Product)

Figure 1A shows the GC/MS chromatogram of the sample at a 1:50,000 dilution using method SW846 8260B. Figure 1B shows the GC/FID chromatogram using a modified SW846 8100 method. These two figures do not indicate the presence of significant petroleum fuel contamination (gasoline to #6 fuel oil). Some petroleum compounds/solvents (2 and 4-chlorotoluene, toluene, naphthalene and m&p-xylene) were detected in the product phase and the associated water phase. Although the presence of these compounds does not provide sufficient insight on their fuel origin, it is likely that a gasoline contamination is associated with these compounds.

Figure 1C shows the GC/ MS chromatogram using method SW846 8270C. The results show the presence of high concentrations of phthalates (plasticizers). These high concentrations indicate a usage of these phthalates for industrial processes.

The PCB chromatograms are shown in Figure 1D, with the sample at a 1:50 dilution. Figure 1E shows the expanded ECD1A chromatogram from Figure 1D. Figure 1F shows the expanded ECD2B chromatogram from Figure 1D. One PCB, Aroclor 1248, was detected at a high concentration (2130 mg/kg).

No organic lead, pesticides or herbicides were detected in the sample. Tentatively identified compounds (TICs) did not provide additional fingerprinting information for product identification.

b) MW-43S 092407 (SA68695-02, Product)

Figure 2A shows the GC/MS chromatogram of the sample at a 1:50,000 dilution using method SW846 8260B. Figure 2B shows the GC/FID chromatogram using a modified SW846 8100 method. These two figures do not indicate the presence of significant petroleum fuel contamination (gasoline to #6 fuel oil). Some petroleum compounds/solvents (benzene, 2 and 4-chlorotoluene, toluene, naphthalene and m&p-xylene) were detected in the product phase and the associated water phase. Although the presence of these compounds does not provide sufficient insight on their fuel origin, it is likely that a gasoline contamination is associated with these compounds. Trichloroethene (TCE) was also present in this sample, indicating a solvent contamination.

Figure 2C shows the GC/ MS chromatogram using method SW846 8270C. The results show the presence of high concentrations of phthalates (plasticizers). These high concentrations indicate a usage of these phthalates for industrial processes.

The PCB chromatograms are shown in Figure 2D, with the sample at a 1:50 dilution. Figure 2E shows the expanded ECD1A chromatogram from Figure 2D. Figure 2F shows the expanded ECD2B chromatogram from Figure 2D. One PCB, Aroclor 1248, was detected at a high concentration (3210 mg/kg).

No organic lead, pesticides or herbicides were detected in the sample. Tentatively identified compounds (TICs) did not provide additional fingerprinting information for product identification.

c) MW-50S 092507 (SA68695-03, product)

Figure 3A shows the GC/MS chromatogram of the sample at a 1:5,000 dilution using method SW846 8260B. Figure 3B shows the GC/FID chromatogram using a modified SW846 8100 method. These two figures indicate the presence of weathered gasoline contamination. The absence of organic lead in the sample indicates that the gasoline contamination is from a post-1979 gasoline.

Figure 3C shows the GC/ MS chromatogram using method SW846 8270C. The results show the presence of high concentrations of phthalates (plasticizers). These high concentrations indicate a usage of these phthalates for industrial processes. The sample also contains the PAHs fluoranthene and pyrene, two compounds typically associated with coal tar contamination.

The PCB chromatograms are shown in Figure 3D, with the sample at a 1:50 dilution. Figure 3E shows the expanded ECD1A chromatogram from Figure 3D. Figure 3F shows the expanded ECD2B chromatogram from Figure 3D. One PCB, Aroclor 1248, was detected at a high concentration (416 mg/kg).

No organic lead, pesticides or herbicides were detected in the sample. Tentatively identified compounds (TICs) did not provide additional fingerprinting information for product identification.

d) TF1/P12 092507 (SA68695-04, product)

Figure 4A shows the GC/MS chromatogram of the sample at a 1:50,000 dilution using method SW846 8260B. Figure 4B shows the GC/FID chromatogram using a modified SW846 8100 method. These two figures indicate the presence of weathered gasoline contamination. The absence of organic lead in the sample indicates that the gasoline contamination is from a post-1979 gasoline.

Figure 4C shows the GC/ MS chromatogram using method SW846 8270C. The results show the presence of high concentrations of phthalates (plasticizers). These high concentrations indicate a usage of these phthalates for industrial processes.

The PCB chromatograms are shown in Figure 4D, with the sample at a 1:50 dilution. Figure 4E shows the expanded ECD1A chromatogram from Figure 4D. Figure 4F shows the expanded ECD2B chromatogram from Figure 4D. No PCBs were associated with this sample.

No organic lead, pesticides or herbicides were detected in the sample. Tentatively identified compounds (TICs) did not provide additional fingerprinting information for product identification.

e) 9A 092507 (SA68695-05, product)

Figure 5A shows the GC/MS chromatogram of the sample at a 1:5,000 dilution using method SW846 8260B. Figure 5B shows the GC/FID chromatogram using a modified SW846 8100 method. These two figures do not indicate the presence of significant petroleum fuel contamination (gasoline to #6 fuel oil). Some petroleum compounds/solvents (benzene, toluene and o-xylene) were detected in the product phase and associated water phase. Although the presence of these compounds does not provide sufficient insight on their fuel origin, it is likely that a gasoline contamination is associated with these compounds.

Figure 5C shows the GC/ MS chromatogram using method SW846 8270C. The results show the presence of high concentrations of phthalates (plasticizers). These high concentrations indicate a usage of these phthalates for industrial processes.

The PCB chromatograms are shown in Figure 5D, with the sample at a 1:50 dilution. Figure 5E shows the expanded ECD1A chromatogram from Figure 5D. Figure 5F shows the expanded ECD2B chromatogram from Figure 5D. One PCB, Aroclor 1248, was detected at a high concentration (3560 mg/kg).

No organic lead, pesticides or herbicides were detected in the sample. Tentatively identified compounds (TICs) did not provide additional fingerprinting information for product identification.

f) Sample comparison

A comparison of the fingerprint and chemical makeup of samples **MW-43S 092407** and **MW-52S 092407** indicates that the contaminant source of these samples is similar. The presence of TCE in **MW-43S 092407** indicates a solvent contamination, as well.

Samples **MW-50S 092507, TF1/P12 092507** and **9A 092507** also have a contaminant signature that is similar to **MW-43S 092407** and **MW-52S 092407**, although the gasoline signature is more evident in samples **MW-50S 092507** and **TF1/P12 092507**. This indicates that the contaminant source of these samples is likely to be similar. Note, however, the absence of the PCB 1248 in sample **TF1/P12 092507**.

5.0 OPINIONS

Based on our education, experience and the analytical testing reflected in the information contained in this report, we have the following opinions to a reasonable degree of scientific certainty about the product sample received from Weston Solutions, Inc.

Opinion 1: Sample **MW-52S 092407** does not contain significant petroleum fuel contamination (gasoline to #6 fuel oil). It is likely, however, that a gasoline contamination is associated with this sample based on the volatile organic compounds detected in the product phase. The sample contains high concentrations of phthalates (plasticizers). These high concentrations indicate a usage of these phthalates for industrial processes. One PCB, Aroclor 1248, was detected at a high concentration (2130 mg/kg).

Opinion 2: Sample **MW-43S 092407** does not contain significant petroleum fuel contamination (gasoline to #6 fuel oil). It is likely, however, that a gasoline contamination is associated with this sample based on the volatile organic compounds detected in the product phase and the associated water phase. The sample contains high concentrations of phthalates (plasticizers). These high concentrations indicate a usage of these phthalates for industrial processes. One PCB, Aroclor 1248, was detected at a high concentration (3210 mg/kg). TCE was also detected in the product sample and the associated water phase.

Opinion 3: Sample **MW-50S 092507** contains weathered gasoline contamination. The absence of organic lead in the sample indicates that the gasoline contamination is from a post-1979 gasoline. The sample contains high concentrations of phthalates (plasticizers). These high concentrations indicate a usage of these phthalates for industrial processes. The sample also contains the PAHs fluoranthene and pyrene, two compounds typically associated with coal tar contamination. One PCB, Aroclor 1248, was detected at a high concentration (416 mg/kg).

Opinion 4: Sample **TF1/P12 092507** contains weathered gasoline contamination. The absence of organic lead in the sample indicates that the gasoline contamination is from a post-1979 gasoline. The sample contains high concentrations of phthalates (plasticizers). These high concentrations indicate a usage of these phthalates for industrial processes. No PCBs were detected in this sample.

Opinion 5: Sample **9A 092507** does not contain significant petroleum fuel contamination (gasoline to #6 fuel oil). It is likely, however, that a gasoline contamination is associated with this sample based on the VOC compounds detected in the product phase and the associated water phase. The sample contains high concentrations of phthalates (plasticizers). These high concentrations indicate a usage of these phthalates for industrial processes. One PCB, Aroclor 1248, was detected at a high concentration (3560 mg/kg).

Opinion 6: A comparison of the fingerprint and chemical makeup of samples **MW-43S 092407** and **MW-52S 092407** indicates that the contaminant source of these samples is similar. The presence of TCE in **MW-43S 092407** indicates a solvent contamination, as well.

Opinion 7: Samples **MW-50S 092507**, **TF1/P12 092507** and **9A 092507** also have a contaminant signature that is similar to **MW-43S 092407** and **MW-52S 092407**, although the gasoline signature is more evident in samples **MW-50S 092507** and **TF1/P12 092507**. This indicates that the contaminant source of these samples is likely to be similar. Note, however, the absence of the PCB 1248 in sample **TF1/P12 092507**.

ATTACHMENT 2

GEOTECHNICAL DESIGN MEMORANDUM

EXCAVATION RECOMMENDATIONS MEMO

WESTON evaluated excavation of impacted soils in the areas north, south and west of the ZAA Dryer Building and determined that, from a geotechnical perspective, it is possible to remove impacted soils from these areas with appropriate engineering controls. Removal of impacted soils using the open-cut method could be accomplished in a manner that would have minimal impact on the stability and integrity of existing structures and utilities provided appropriate limitations and restrictions are placed on the extent of excavations, location of equipment, etc. Following is a summary of the recommendations to allow open cutting of the site excavations. Prior to initiating any excavation work a detailed stability analysis of each location should be completed which would include the consideration of adjacent structures, utilities and equipment.

Tank Farm

WESTON completed a number of slope stability calculations in order to assess the requirements for excavating impacted soils. Of significant concern with respect to structure integrity are the tanks located in the Ester Tank Farm. There are several tall, slender, above-ground tanks located immediately north of the open area identified above as the area north of the ZAA Dryer building. This open area, which is paved, slopes steeply downward from the Ester Tank Farm to the ZAA Dryer building. The targeted excavation depth in this area ranges from about 20 feet on the eastern end to 8 feet on the western end. WESTON completed a slope stability evaluation of an open-cut excavation in this area that extended to a depth of 25 feet. From this evaluation it was determined that the strata of loose sandy soil governed the inclination of the temporary excavation slope. See Figure 1. The inclination of the slopes of the three soil strata were varied until a factor-of-safety of 1.25 was achieved. The acceptable factor-of-safety for temporary slopes typically falls in the range of 1.25 to 1.3. WESTON accepts a factor-of-safety on the lower end of this range because the top of the temporary slope was off-set 15 feet from the wall of the tank farm. This off-set distance allows acceptance of the lower factor-of-safety and ensures that no soil within the zone of influence below the foundation of the tanks is disturbed.

The groundwater table below the Ester Tank Farm could be impacted, i.e., lowered, during excavation activities as a result of dewatering activities. Lowering the groundwater level below the tanks could result in settlement of the tanks as a result of a change in the water content of the soil. While an off-set distance of 15 feet is acceptable from a slope stability perspective, it may be necessary to increase this off-set distance even further to guard against potential negative impacts caused by dewatering. Settlement is of particular concern as the tanks are tall and slender and even small differential movements could cause significant damage to the tanks. It is assumed that the tanks are constructed on shallow foundations and not supported on pile foundations.

Table 1
Off-set distance from Ester Tank Farm
(preliminary assessment)

Depth of Excavation	Distance to Top of Slope[1]	Distance to Toe of Slope[2]
5	15	18
10	15	27
15	15	33
20	15	39
25	15	44

Notes:
1. Off-set distances to top of slope could potentially be reduced for shallow excavations however, transitioning between shallower and deeper excavations must be considered.
2. Approximate off-set distance to toe of slope is based on the findings of the stability analysis completed for a 25-foot deep excavation.

Buildings

Excavations in proximity to any building or small above-ground structure should be off-set a minimum of 10 feet from the outside face of the building or structure. The excavation slope should be extended down at an inclination of 2H:1V. This general guidance should insure the stability of any structure supported on shallow-based foundations, i.e., spread and wall footings and is based on the premise that footings will be buried at a depth of approximately 3 feet below the ground surface. Each structure should be evaluated individually since the size and depth of footings may vary.

Utilities

Off-set distances from buried utilities could be varied depending on the age and condition of the line and what the line is carrying with newer lines carrying, for example, stormwater requiring a lesser off-set distance than older lines carrying process liquids. At a minimum, the top and/or toe of an excavated slope should be off-set at least 5 feet from the edge of a utility measured at its spring line. If the utility is older and its integrity is questionable, the off-set distance should be increased as necessary to provide additional protection for the line.. The inclination of an excavated slope should be no steeper than 2H:1V. Utilities located within the footprint of an excavation would possibly be located on a bench within the excavation. Based on the above guidance, the bench will be at least 10 feet wide plus the diameter or width of the line.

Similar off-set requirements should be followed for in-line structures such as vaults and manholes. When excavating around in-line structures soil should be removed in a manner that will not result in unbalanced earth pressure acting on the structure. That is, removal of soil from only one side of an in-line structure is prohibited. Soil should be removed uniformly from all sides of a structure. Each in-line structure impacted by excavation activities should be evaluated on an individual basis as the size and depth of the structure will dictate the specific excavation restrictions.

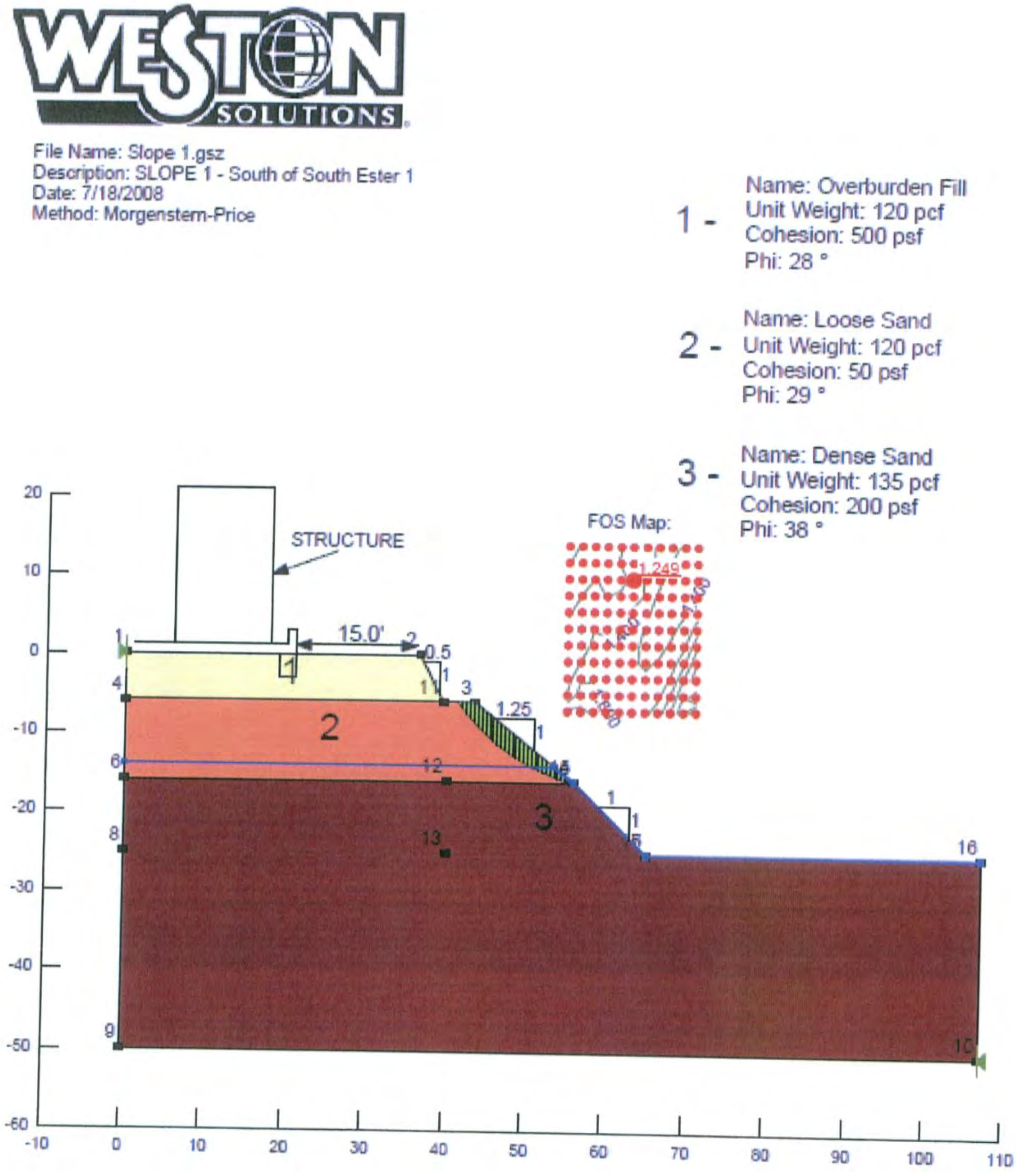
Shallow Excavations Adjacent to Structures

It would be possible to advance shallow excavations adjacent to structures provided those excavations are not extended below the bearing surface of the building foundations. The depth to the bearing surface of most shallow-based foundations at the site is expected to be approximately 3 feet. Therefore, shallow excavations could be completed to a depth of about 3 feet below existing ground surface immediately adjacent to buildings while still maintaining the stability and integrity of the structure. Each structure should be evaluated on an individual basis to determine footing depths. Care should be exercised if adjacent footings bear at different levels.

Equipment

Additional restrictions on the operation of equipment on and at the top of excavated slopes should be considered. Staging excavators, dump trucks and other equipment at the top of a slope may require the slope to be excavated at a less steep inclination. Localized flatter slopes may be required at locations at which equipment is to be staged. It is assumed the active working face on or above which equipment is staged will be inclined at a flatter slope than other surrounding slopes.

Figure 1
Ester Tank Farm
Slope Stability Output Plot



ATTACHMENT 3

CONFIRMATION SAMPLING PLAN (CSP)

Attachment 3

Revised Interim Remedial Measure RAWP
Revised Confirmation Sampling Plan
Hatco Site – Fords, New Jersey
February 2010

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1.0 BACKGROUND AND RATIONALE

As described in the Revised Interim Remedial Measure (IRM) Remedial Action Work Plan (RAWP), Weston is proposing remediating soils containing 500 milligrams per kilogram (mg/kg) dry weight polychlorinated biphenyls (PCBs) and removal all light non-aqueous phase liquid (LNAPL) containing PCBs. In selected areas of the Hatco Site, this will be accomplished through the IRM described in the IRM RAWP. Soil remediation will be accomplished through removal of the LNAPL, and documentation that all remaining soils in the IRM area contain less than 500 mg/kg dry weight will be accomplished through collection of post-remedy confirmation soil samples, as described in this Revised Confirmation Sampling Plan (CSP).

The IRM being proposed includes active LNAPL removal through a combination of recovery wells and recovery trenches being installed in areas where, due to the presence of structures or active manufacturing site operations, remedial excavations to remove soils and LNAPL to depths encountered on-site would cause significant technical difficulties. The IRM measures are described in detail in the IRM RAWP, to which this CSP is attached. The following elements are being included in the proposed IRM RAWP to facilitate expedited removal of PCBs at concentrations of 500 mg/kg dry weight or more from the Hatco site:

- Installation and operation of four recovery wells during Phase I of the IRM RAWP to provide the design data necessary for full-scale IRM implementation.
- Design and remedial program optimization following collection of design data through operation of the Phase I recovery wells.
- Installation and operation of Phase II recovery wells, conceptually estimated as an additional nine recovery points.
- Installation and operation of two recovery trenches. One of the recovery trenches will be installed in the northern portion of the LNAPL plume to the south of the main tank farm area, and the second will be installed in the center area of the southern edge of the LNAPL plume. LNAPL to the east and west of the southern recovery trench will be "funneled" into the recovery trench through use of cut-off barriers which will be angled to prevent migration of LNAPL beyond the current plume boundaries.

Active LNAPL recovery will be accomplished by lowering the water table to provide the hydraulic gradient necessary to stimulate flow towards the collection points. Extracted groundwater and recovered LNAPL will be treated through an on-site LNAPL Separation and Groundwater Treatment Plant.

Following removal of LNAPL through the active recovery IRM, a post-IRM confirmation sampling program will be implemented to document complete removal of separate-phase LNAPL from the LNAPL Recovery Area identified on Figure 3 of the IRM RAWP. The confirmation sampling program will include visual monitoring of groundwater from a series of existing and proposed monitoring wells, as described in Section 2.1 of this CSP, until the LNAPL remedial criteria of "none noticeable" has been met. Based on NJDEP's direction, the "none noticeable" criteria has been met for a given monitoring point when a bailer is lowered and recovered from a well, and LNAPL product is not present on the exterior and interior walls of the bailer, and neither LNAPL nor sheen are observed on the groundwater collected in the bailer.

Additionally, once the LNAPL monitoring program has documented LNAPL has been removed to meet the "none noticeable" criteria, soil samples from a series of soil borings installed across the IRM area will be collected to document that all soils with PCBs at concentrations of 500 mg/kg dry weight or more have been successfully remediated and that separate-phase product is not observed in the post-IRM confirmation soil samples. In the event that the post-IRM confirmation sampling program indicates that LNAPL is still present, the active LNAPL recovery system will be reactivated until the approved remedial endpoint is reached. If LNAPL has been successfully removed as indicated by reaching the LNAPL remedial endpoint, but PCBs remain in soils in concentrations of 500 mg/kg dry weight or more, then those areas of elevated PCBs (500 mg/kg dry weight or more) will be removed by excavation as discussed in the Remedial Action Work Plan Addendum 3, which was submitted to NJDEP and USEPA by 28 August, 2009.

This CSP and technical approach have been developed in accordance with the *New Jersey Technical Requirements for Site Remediation* (TRSR) found at New Jersey Administrative Code Title 7, Chapter 26E (N.J.A.C. 7:26E-1 *et seq.*) and the NJDEP *Field Sampling Procedures Manual* (August 2005), as well as pertinent portions of the federal PCB regulations (Title 40 Code of Federal Regulations, Part 761 [40 CFR 761]).

This CSP focuses on on-site sampling for confirmatory data necessary to document the effectiveness of removal of LNAPL, and with removal of LNAPL-associated PCBs present in site soils at concentrations of 500 mg/kg measured on a dry weight basis. As required by the

March 30, 2005 EPA Approval Letter, Weston will remove all areas where soils contain 500 mg/kg dry weight or more of PCBs, as well as the LNAPL. Based on extensive historical sampling, the limits of the LNAPL plume have been delineated as shown on Figure 2 of the IRM RAWP to which this CSP is attached.

This CSP describes the sampling program within the IRM treatment area, implementation of which will collect confirmatory data to document removal of LNAPL, and materials associated with LNAPL in soil, that contain 500 mg/kg dry weight or more PCBs have been successfully removed from the IRM area. It is noted that all soils with PCBs at concentrations of 500 mg/kg dry weight or more that are not co-located with LNAPL areas on-site, along with soils with PCBs at concentrations of 500 mg/kg dry weight of more associated with LNAPL areas that will not be addressed under the IRM (e.g., the LNAPL plume area "legs") will be addressed under the RAWP Addendum 3. Residual contamination other than PCBs at concentrations of 500 mg/kg dry weight or more will also be addressed under the RAWP Addendum 3, which will be submitted under separate cover.

2.0 SAMPLING AND ANALYSIS PLAN DESIGN

Historical sample locations, concentrations and depths, as well as field observations noted in boring and test pit logs, were utilized to develop the LNAPL plume extent. During Weston's 2007 verification sampling investigation, extensive field data and analytical results were obtained to refine the limits of the LNAPL plume to those presented on Figures 1 and 2. Extensive verification sampling was conducted so that the volume of materials requiring remediation could be better quantified, disruptions to Hatco's operations could be minimized, and the overall remediation implementation schedule could be optimized.

The post-IRM confirmation sampling program has been designed in accordance with the requirements for in-situ remedial confirmation sampling as set forth in the NJDEP TRSR, Chapter 6.4 (N.J.A.C. 7:26E-6.4(a)3). The post-IRM confirmation sampling program includes collection of a series of soil samples collected via soil borings installed on a systematic grid to document that all areas of soil contaminated with PCBs in concentrations of 500 mg/kg dry weight or more, which are co-located with the LNAPL plume, have been successfully remediated to less than 500 mg/kg dry weight. Note that for those portions of the LNAPL plume that are not included in the IRM RAWP, soil contaminated with PCBs at concentrations of 500 mg/kg or more and LNAPL will be addressed via excavation; a discussion of the proposed remedial action and confirmation sampling program for those areas is presented in the Remedial Action Work Plan Addendum 3, which will be provided under separate cover. All areas where PCBs in soil are present at concentrations of 500 mg/kg dry weight or more that are not co-located with the LNAPL plume are also addressed in the Remedial Action Work Plan Addendum 3.

The post-IRM confirmation sampling program also includes conducting a visual assessment for residual LNAPL in existing and proposed new monitoring points (monitoring wells and piezometers) to document that LNAPL has been successfully removed from the surface of the groundwater (i.e., when the "none noticeable" criteria has been met).

The post-IRM confirmation sampling program is described in more detail below.

2.1 LNAPL Remedial End-Point Monitoring

Following the point at which LNAPL is no longer being removed through the IRM active LNAPL recovery program, Weston will implement a LNAPL remedial end-point monitoring program to document that no LNAPL remains in the subsurface. Based on NJDEP's direction, the remedial endpoint for LNAPL removal will be "none noticeable," which is consistent with the New Jersey Groundwater Quality Standards found at N.J.A.C. 7:9-1 *et seq*. As identified by the NJDEP Hatco case team, the metric for "non-noticeable" is as follows:

> A bailer is placed in the well. When the bailer is removed, there is no evidence of free product on the inside or outside of the bailer or on the water surface.

Upon completion of LNAPL recovery through the Phase I and Phase II system operations, an evaluation to determine if the LNAPL removal remedial endpoints have been reached. This evaluation will include monitoring from identified existing monitoring wells/piezometers, newly installed monitoring wells in areas where there is not sufficient coverage from the existing monitoring well network, and collection of samples for visual assessment from each of the two active LNAPL recovery trenches on-site. Note that a third, historically-used, passive recovery trench (associated with the T-208 system) is deemed obsolete in that it has ceased to recover LNAPL, Further, as this trench is installed to a shallow depth, it will not be able to intercept product and groundwater during implementation of the IRM program, as the active recovery implemented through the well points and active LNAPL recovery trenches will lower the water table to further preclude the intersection of the top of water table by the passive T-208 trench, thereby not allowing it to be used for LNAPL monitoring.

The monitoring well program will consist of introducing a dedicated, clear disposable bailer into each monitoring point, removal of groundwater, and visual inspection of the exterior and interior of the clear bailer, as well as the groundwater recovered in the bailer, for the presence of product or sheen. The monitoring program will include monthly visual gauging of all monitoring points identified below for a period of two years. This process will allow for seasonal fluctuation of groundwater, combined with sufficient time for any potential rebound of LNAPL to manifest, to be determined.

Existing monitoring wells proposed to be monitored for the presence of LNAPL during the post-IRM confirmation sampling program include the following, as shown on Figure 1 of this CSP:

MW15S	MW31S	P14
MW16S	MW32S	P15
MW17S	MW35S	TF1/P1
MW19S	MW36S	TF1/P2
MW23S	MW37S	TF1/P4
MW24S	MW38S	TF1/P5
MW25S	MW41S	TF1/P6
MW26	MW42S	TF1/P8
MW28S	MW44S	TF1/P10
MW29S	P13	TF1/P11
MW30S		

This list includes every existing monitoring well/piezometer within the boundary of the LNAPL plume in the shallow groundwater zone, as well as those existing points within proximity but beyond the limits of the LNAPL plume that are screened in the shallow zone and have the potential to intersect the top of the water table.

In areas where there are not sufficient existing monitoring wells to document the absence of LNAPL following IRM completion, Weston will install a series of monitoring wells, as shown on Figure 1, to be used for LNAPL gauging purposes. The number and locations of the monitoring wells as shown on Figure 1 are preliminary; the final locations will be proposed along with the final Phase II recovery point layout following the remedial design activities that follow Phase I operation. At this time, it is anticipated that these wells will be constructed of polyvinyl chloride (PVC), be 2 inches in diameter, and be provided with a 10-foot screen that intersects the water table. It is anticipated that they will be fitted with 10 slot well screen, and the annular space between the boring and the well screen will be No. 1 Morie sand pack; however, these technical criteria will be confirmed during Phase II system design.

It is anticipated that these monitoring wells will be installed following completion of the IRM removal, and will be used solely for documenting the absence of LNAPL. Following confirmation of LNAPL absence, Weston will propose that these monitoring points be abandoned by a NJDEP-licensed well abandoner.

Following the 2-year monthly monitoring program, Weston will conduct eight quarterly rounds of groundwater monitoring. This monitoring program will be detailed in Addendum 3 to the RAWP, which was submitted August 2009 but will require modification and re-submittal based on the comments to the IRM RAWP and anticipated comments on the Addendum 3 document. The updated Addendum 3 will detail the groundwater sampling program that will be implemented following the 2-year post-IRM product recovery monthly monitoring program.

2.2 Post-LNAPL Removal Confirmation Soil Sampling

As discussed in Section 2.0 of this CSP, post-IRM confirmation soil samples will be collected via soil borings installed on a systematic grid system to document that all soils co-located with the LNAPL plume have been successfully remediated to less than 500 mg/kg dry weight. Soil sampling will occur following confirmation that LNAPL has been successfully removed, as documented by two years of monthly visual monitoring of the groundwater table for the presence of LNAPL as described in Section 2.1 of this CSP.

As required by NJDEP and US EPA comments on the August 2009 version of this document, a sampling grid of the dimensions of 20 feet by 20 feet has been established across the bulk of the area that is being addressed by the IRM, and a sampling grid of 5 feet by 5 feet has been established across the area to the north of the ZAA building which encompasses the locations of former Ponds 1 and 2. Soil borings will be installed at the grid nodes, as shown on Figure 2 (20-foot by 20-foot grid area) and Figure 3 (5-foot by 5-foot grid area). Additional samples will be collected from historic soil sample locations where PCBs were detected at concentrations of 500 mg/kg or more (Figure 4).

All post-IRM soil samples will be analyzed for PCBs using SW-846 Method 8082. As required by NJDEP comments on the August 2009 version of the IRM RAWP CSP, 10% of the soil samples will also be analyzed for volatile organic compounds (VOC) and base/neutral extractable compounds (BNs). In order to meet the requirement of the TRSR that soil samples collected for VOC analysis be biased towards depth intervals with the highest field screening readings, the following procedure will be followed to determine the samples that will be collected for the analytical parameters in addition to PCB. The soil with the "tenth" PCB sample will be identified, and photoionization detector (PID) readings will be used to identify which of the identified PCB samples will also be collected for VOC and BN analysis. This method will ensure that 10% of the PCB samples will be analyzed for the additional analyses, but will also ensure that the additional analyses are biased towards those samples where the highest concentrations of VOC are anticipated. If elevated PID/FID readings are not observed within the boring with the "tenth" PCB sample, then VOC/BN samples will be biased towards the PCB sample depth where field observations (e.g,. staining, odors) are observed. If neither PID/FID nor field observations provide a bias for collection of VOC/BN samples, then the "tenth" PCB sample will also be collected for the additional (VOC and BN) parameters.

All soil samples with analytical results of less than 500 mg/kg PCBs dry weight are considered to have met the remedial standard. It is anticipated that non-PCB constituents will remain in soil at concentrations above the non-residential soil remediation standards, but these contaminants will be controlled through use of engineering and institutional controls, as discussed in more detail in Addendum 3 to the RAWP.

Note that if areas of LNAPL are noted during the post-IRM sampling program, WESTON may opt to postpone further collection of IRM confirmation samples pending additional operation of the active LNAPL recovery system. Alternately, Weston may opt to continue post-IRM sampling and address the areas where LNAPL and/or areas with PCBs present in concentrations at or above 500 mg/kg by an alternate remedial method (e.g., excavation and off-site disposal).

2.2.1 Grid Sampling

As required under the TRSR for in-situ remedies, one soil sample will be collected from each grid node for each 2 feet of LNAPL-impacted soil column. All historic data, including those gathered during Weston's 2007 pre-design sampling program, were used to establish "depth to top-of-LNAPL" and "depth to bottom-of-LNAPL" contours from which the upper and lower bounds of the vertical samples collected from each soil boring were estimated. The resultant contour maps are included as Appendix A to this CSP, as is a figure identifying all boring locations which were used to establish the depth to top and bottom of LNAPL contours.

One soil sample will be collected from each 2-foot depth interval within the historic limits of the LNAPL plume, with the exception that if evidence of LNAPL is observed in soil boring locations beyond the historic limits of the LNAPL plume, the sampling program will expand beyond those anticipated limits. Samples will be collected for chemical analysis from each "grid node" boring at the depths specified below:

- One soil sample will be collected from each 2-foot interval within the soil column where LNAPL has historically been encountered.
- One sample will be collected from the 2-foot interval above the historic depth to top of LNAPL interval, with the exception being borings where measured or inferred LNAPL was detected within the top 2-foot interval of the soil column. At these boring locations, a surface soil sample (beneath any paving that may be present) will be collected to satisfy the requirement for collecting a sample from the 2-foot interval above historic observed (or inferred from the contours) top of LNAPL.
- In the event that evidence of LNAPL is observed in the post-IRM soil samples above the shallowest depth indicated by the contours developed based on historic data, soil samples will be collected from shallower depths, based on 2-foot intervals, throughout the depth interval where LNAPL is observed.
- One sample will be collected from beneath the observed (or inferred) bottom of LNAPL. Weston assumes an average 1-foot drawdown of the water table during implementation of the active LNAPL recovery program; therefore, the deepest sample depth identified for each boring identified in the sample summary table included with this CSP is from the 2-foot interval below 1 foot deeper than the deepest depth where LNAPL has been observed (or inferred from the contours).
- In the event that evidence of LNAPL is observed in the deepest sample depth indicated for a given boring, that boring will be extended in depth for collection of additional soil samples beyond those identified in the sample summary table provided with this CSP. The boring will be extended to a depth of a minimum of 2 feet beyond the deepest observed LNAPL within the boring.

Those grid nodes that fall within the LNAPL limit boundary, plus the soil boring immediately beyond the boundaries of the plume, will be sampled during the IRM confirmation sampling program, as the extensive pre-design sampling program conducted in 2007 established the limits of LNAPL with a high level of confidence. If, however, there is evidence of LNAPL in the soil boring samples collected from the outer boundaries of the post-IRM confirmation sampling program, either in a vertical or horizontal direction, additional samples will be added to the post-IRM sampling program in either vertically or laterally, as appropriate, until the limits of the impacted area is determined.

20-Foot Grid Sampling

The majority of the area being proposed for the IRM LNAPL removal program will have confirmation sampling collected on a 20-foot by 20-foot grid. CSP Figure 2 shows those areas proposed for sampling on a 20-foot grid node, and CSP Table 1A provides details the sample locations and depths for each grid node within this area.

Note that sample grid nodes that fall within the interior of a structure such as a building, tank farm, or significant individual tank, will not be sampled during the IMR confirmation sampling program due to lack of access to these areas by the drilling equipment. For those sampling grid nodes that fall near the edge of such a structure, the boring location will be shifted to beyond the footprint of the structure, provided that there is not another 20-foot grid sample node within 10 feet of the structure, or 5-foot grid node within 5 feet of the structure.

For grid nodes that fall within the corridor (established at 5-foot on either side) of an underground utility (as shown on Figure 2 provided with this CSP), the boring will be shifted beyond the limits of the utility corridor, again, provided that another 20-foot grid node does not fall within 10 feet of the utility corridor or a 5-foot grid node does not fall within 5 feet of the utility corridor.

5-Foot Grid Sampling

The area to the north of the ZAA Building, co-located with the footprints of former Ponds 1 and 2, will have their confirmation samples collected on a 5-foot by 5-foot grid. CSP Figure 3 shows those areas proposed for sampling on a 5-foot grid node, and CSP Table 1B provides details the sample locations and depths for each grid node within this area.

Note that sample grid nodes that fall within the interior of a structure such as a building or tank farm, will not be sampled during the IMR confirmation sampling program due to lack of access to these areas by the drilling equipment. For those sampling grid nodes that fall near the edge of such a structure, the boring location will be not be shifted as the tightness of the grid spacing already established. Likewise, for grid nodes that fall within the corridor of an underground utility (as shown on Figure 3 provided with this CSP), the boring location will not be shifted beyond the limits of the utility corridor, as the width of the utility corridor is more than that of the grid spacing, thereby providing another "scheduled" sample location in the immediate proximity of any location where the boring located within the corridor could be shifted to.

2.2.2 Historic Samples with PCB Concentrations of 500 mg/kg or Greater

Additionally, as requested by NJDEP and EPA in their comments on the August 2009 version of this IRM CSP, additional samples will be collected from the locations where PCBs were detected at a concentration of 500 mg/kg or greater. These samples will be collected from the same horizontal and vertical sample locations as the historic PCB samples.

Figure 4 shows the locations of historic soil samples with PCB concentrations of 500 mg/kg or more that are co-located with the LNAPL plume in the IRM treatment zone; additional soil samples that are located beyond the horizontal and vertical LNAPL footprint of IRM treatment are addressed in Addendum 3 to the RAWP. Table 1C provides a summary of the samples that will be collected from locations where prior samples indicated the presence of PCBs at concentrations of 500 mg/kg or more.

Note that this sampling will be limited to those areas where LNAPL has historically been found within the boundary of the IRM remedial action. Locations with PCBs historically detected in areas that are not co-located with the LNAPL plume are being addressed by excavation and off-site disposal under the site-wide remedial program described under Addendum 3 to the RAWP, and historic samples with PCBs in concentrations of 500 mg/kg or more that are co-located with LNAPL which will be addressed through excavation and off-site disposal (e.g., the LNAPL plume "legs") are also being addressed within the remedial program presented in Addendum 3 to the RAWP.

2.2.3 Sample Identification

Each sample will be assigned a unique field sample identification code and labeled accordingly. This field sample identification code provides the tracing of the sample from the location in the field, through laboratory analysis, and finally to data evaluation and presentation, and contains information traceable to the type, location where the sample was collected, and other information appropriate to that sample. This code will be used for references to this particular sample in field and project documentation and reports. It is essential that the integrity of the field sample identification (ID) code not be compromised.

As per Figure 2, the north-south grid lines for the 20-foot grid area are designated as "XA" through "XAH" and the east-west grid lines are designated as "X01" through "X35." Soil sampling locations will be identified by the north-south grid line designation and the east-west grid line designation. For example, samples collected from the node at the intersection of east-west grid line "X06" and north-south grid line "XS" will have field ID number beginning with "X06_XS." The field sample ID will be further defined by the sample depth, as described below.

The naming convention will be similar for those soil samples collected within the 5-foot grid area, except that as noted on Figure 3 the 5-foot grid lines are identified as 5XI through 5XAW in an east-west direction and 5X01 through 5X33 on a north-south direction. Therefore, for example, the boring installed at the intersection of east-west grid line "5X18" and north-south grid line "5XK" would have a field ID number beginning with "5X18_5XK".

Samples collected to document remediation of historic samples within the LNAPL plume with PCB concentrations of 500 mg/kg or more will have post-IRM field ID numbers that correspond to the historic sample ID, preceded with an "X_." For example, for historic sample ID SB-278, the post-IRM sample will have a field ID number beginning with X_SB-278.

The location within the vertical sample column will also be identified through the use of a systematic sample naming convention. Following the grid node designator, the depth will be identified through use of the code "_##-##" where the "##" is substituted by an alphabetic depth designator, as follows:

AA	0 Feet	AG	3 Feet	AM	6 Feet	AS	9 Feet
AB	0.5 Feet	AH	3.5 Feet	AN	6.5 Feet	AT	9.5 Feet
AC	1 Feet	AI	4 Feet	AO	7 Feet	AU	10 Feet
AD	1.5 Feet	AJ	4.5 Feet	AP	7.5 Feet	AV	10.5 Feet
AE	2 Feet	AK	5 Feet	AQ	8 Feet	AW	11 Feet
AF	2.5 Feet	AL	5.5 Feet	AR	8.5 Feet	AX	11.5 Feet

AY	12 Feet	BM	19 Feet	CA	26 Feet	CO	33 Feet
AZ	12.5 Feet	BN	19.5 Feet	CB	26.5 Feet	CP	33.5 Feet
BA	13 Feet	BO	20 Feet	CC	27 Feet	CQ	34 Feet
BB	13.5 Feet	BP	20.5 Feet	CD	27.5 Feet	CR	34.5 Feet
BC	14 Feet	BQ	21 Feet	CE	28 Feet	CS	35 Feet
BD	14.5 Feet	BR	21.5 Feet	CF	28.5 Feet	CT	35.5 Feet
BE	15 Feet	BS	22 Feet	CG	29 Feet	CU	36 Feet
BF	15.5 Feet	BT	22.5 Feet	CH	29.5 Feet	CV	36.5 Feet
BG	16 Feet	BU	23 Feet	CI	30 Feet	CW	37 Feet
BH	16.5 Feet	BV	23.5 Feet	CJ	30.5 Feet	CX	37.5 Feet
BI	17 Feet	BW	24 Feet	CK	31 Feet	CY	38 Feet
BJ	17.5 Feet	BX	24.5 Feet	CL	31.5 Feet	CZ	38.5 Feet
BK	18 Feet	BY	25 Feet	CM	32 Feet		
BL	18.5 Feet	BZ	25.5 Feet	CN	32.5 Feet		

Therefore, using the example provided for the 20-foot by 20-foot grid node sample location, for a post-excavation sample collected from a depth of 4-4.5 feet below grade from the intersection of grid lines "X06" and "XS" would be designated as "X06_XS _AI-AJ".

Duplicate sample pairs will have the designators "_1" for the environmental sample and "_2" for the duplicate sample added to the end of the sample ID, and field blanks will be designated with "_3" appended to the sample ID.

2.3 Wastewater Discharge Sampling Program

In addition to the post-IRM confirmation soil sampling and LNAPL monitoring program, the IRM will include collection of treated groundwater samples to document compliance with the permit allowing discharge of the treated groundwater. Discussions have occurred between Weston and the Middlesex County Utilities Authority (MCUA), and it is anticipated that the treated groundwater will be discharged to MCUA under a temporary discharge approval (groundwater remediation control) obtained for that purpose.

At the time this CSP was being prepared, a permit had not yet been applied for or obtained for disposal of treated groundwater to the MCUA, as the design process for treating the recovered LNAPL and groundwater has not been finalized. It is anticipated, however, that the wastewater will require, at a minimum, chemical analysis for the same analytical parameters as is required under the current Hatco discharge permit to the MCUA (PCBs, pH, biological oxygen demand, chemical oxygen demand, total suspended solids, total petroleum hydrocarbons, selected metals, selected volatile organic compounds, and selected semivolatile organic compounds); however, the specific compounds required under the anticipated MCUA permit, as well as the discharge limits, are not known at this time.

The wastewater discharge sampling program will be conducted in accordance with the requirements set forth in the discharge permit. The permit will specify the analytes required for collection, the required permit limits, the number and locations of samples to be collected, the frequency of sample collection and analysis, and may even specify the analytical methods necessary. Upon receipt of the draft permit, Weston will coordinate with the selected NJDEP-certified analytical laboratory, to identify analytical methods that will provide reporting limits sufficient to meet the permit limits. At that time, we will update Table 2, which identifies the analytical parameters, matrix, preparation and analytical methods, and container, preservation, and holding time requirements, and Table 3, which identifies the anticipated number of samples upon finalization of the MCUA permit and submit those tables to EPA and NJDEP at that time.

3.0 SAMPLING PROCEDURES

Sampling procedures will follow technical requirements as set forth in the NJDEP *Field Sampling Procedures Manual* (August 2005), as described and amended herein. Weston will follow the Health and Safety Plan (HASP) provided in the Consolidated RAWP approved by the NJDEP on September 26, 2006; an amended HASP will be provided for review upon completion of the design phase, to include all safety aspects related to implementation of treatment system installation and operation.

3.1 LNAPL Removal Confirmation Assessment Methodology

In order to limit the potential for cross-contamination in the event that LNAPL has not been sufficiently removed, dedicated, disposable bailers will be used at each monitoring well/piezometer that is being gauged to document the LNAPL removal remedial end limit. It is anticipated that 1.5-inch diameter Teflon®-coated disposable polyethylene bailers with a check valve at the bottom will be used during the confirmation monitoring program. Bailers will be clear, to aide visible assessment of the presence or absence of product on the inner or outer wall of the bailer, and visible assessment of the presence or absence of a LNAPL layer or sheen on the groundwater collected in the bailer.

Close visual observation will be made of the inner and outer wall of the bailer, and of the water collected within the bailer. The sampling technician will don new latex or neoprene sampling gloves for each monitoring location, and will feel the outer wall of the bailer to determine if there is any textural indication of product (e.g., slipperiness that might indicate an organic layer). Detailed notes will be documented in the field log or field form indicating the color, odor, and any other noteworthy observations.

Photodocumentation of each bailer of recovered groundwater that is determined not to have product present will be collected using digital photography as an additional layer of documentation that LNAPL has been successfully removed from the subsurface. Photo-documentation of the bailers will be done against a white background to aid in identification of presence/absence of LNAPL.

The monitoring program will be comprised of monthly monitoring for a period of 2 years, during (and after) which time the criterion of "none-noticeable" will be met. Weston understands that NJDEP will require eight rounds of quarterly groundwater sampling following successful implementation of the LNAPL monitoring program. A discussion of the dissolved-phase groundwater monitoring program will be submitted in the amendments that will be made to Addendum 3 of the RAWP upon receipt of comments from US EPA and NJDEP on the August 2009 version of that document.

3.2 Soil Sample Collection Methodology

Soil borings will be installed using Geoprobe® for collection of post-IRM confirmation soil sample following the 2-year LNAPL monitoring program described above. The Geoprobe method involves the use of a truck-mounted (or otherwise motorized vehicle) direct-push boring mechanism operated by a qualified driller licensed by the state of New Jersey. A hollow tube Macro-Core® with a dedicated disposable acetate sleeve is advanced through direct-push mechanism. The sleeve is held in place by a steel bit, which is decontaminated following procedures outlined in Section 5.0 of this document between each boring location. The Macro-Core is advanced in 4-foot sections, then retracted and opened to remove the acetate sleeve. A new acetate sleeve is installed within the Macro-Core and the boring is advanced an additional 4 feet. This process is repeated until the desired depth is achieved. This sampling program will be implemented following 2 years of monitoring all wells/piezometers within the IRM zone to confirm that all recoverable LNAPL had successfully been removed.

Each boring will be logged for lithology, field observations, PID readings, and presence/absence of visual LNAPL by a Weston geologist/scientist. As required by the TRSR, boring logs will be prepared and provided in the appropriate progress report.

As required per N.J.A.C. 7:26E-6.4(a)3, one additional sample will be collected at each sample grid node for every two feet of treatment area depth beyond a 2-foot thickness, and appropriate post-IRM sample depths have been determined based on historic data and those gathered during the 2007 pre-design sampling program that identified the upper and lower vertical limits of the LNAPL "smear zone." Since the IRM will include water table depression, the potential exists for the "smear zone" to be "dragged" lower during implementation of the IRM. Therefore, the minimum deepest vertical sample for each grid node sampling location will be within the 2-foot interval deeper than 1-foot below the lowest observed LNAPL limit inferred from historical sampling and the 2007 pre-design sampling program. This depth will account for an estimated average 1-foot water table depression throughout the IRM zone. Note, however, that if evidence of LNAPL is observed at the deepest depth anticipated in a soil boring, the boring will be extended vertically until there are no indications of the presence of LNAPL, and one sample will be collected from the 2-foot interval below the last signs of LNAPL observed in the boring.

For installation of the borings, a 2-inch-diameter Macro-Core will be used. This will produce a borehole that is 2.25 inches in diameter. The bit will be decontaminated on site between boring locations in accordance with the decontamination requirements described in Section 5.0 of this CSP.

For sample logging and collection, the acetate sleeve is cut open with a cutting blade, then the sample is examined and field screened with a PID. Sample collection is determined and implemented. All post-IRM confirmation soil samples will be collected from a distinct 6-inch interval from the acetate sleeve. Sampling intervals are noted on Tables 1A, 1B, and 1C of this CSP. Soils will be transferred into laboratory-supplied glassware with dedicated disposable sampling scoops, except that soil samples to be analyzed for VOC analysis will be collected directly from the soil cores with disposable EnCore® sampling devices. Dedicated, disposable equipment will be used to minimize the amount of field decontamination necessary to accomplish the post-IRM sampling program.

In the event that multi-phasic materials are encountered during the post-IRM confirmatory soil sampling program, one of several options will be implemented. Weston may choose to re-activate the active LNAPL recovery system and postpone the IRM confirmation sampling program until such time as it is determined that all recoverable LNAPL has been collected. Alternately, if multi-phasic materials are encountered during the soil sampling program, samples will be analyzed of both the soil phase and the LNAPL phase. Unless there is sufficient LNAPL encountered to allow for collection of a separate sample in the field of the distinct matrix, the laboratory will determine if there is sufficient volume of LNAPL contained within the soil matrix to allow for analysis of a separate-phase LNAPL sample.

3.3 Groundwater Treatment System Samples

At the time this CSP was being prepared, a discharge permit had not yet been obtained from MCUA. The MCUA discharge permit will identify the requirements of the groundwater discharge compliance sampling program. Weston will collect the treatment system samples in strict accordance with the requirements of the permit.

3.4 Sample Handling And Analysis

Immediately upon collection of samples of environmental media, the samples will be placed in a cooler and chilled with ice, and will be picked up by the laboratory. Prior to the laboratory picking up the samples, the coolers will be sealed and labeled as per United States Department of Transportation (DOT) requirements

3.4.1 Chain-of-Custody Documentation

The purpose of the chain-of-custody (COC) procedures is to document the history of sample containers and samples from the time of sample collection through shipment and analysis, and to maintain sampling integrity. COC is initiated in the field and will travel with the samples. Custody seals will be affixed to the shipping container and sealed with clear tape. Upon sample receipt, the contracted laboratory will resume sample custody.

3.4.2 Sample Volumes and Containers

A sufficient volume of sample, representative of each matrix, will be collected. Sample volumes for the parameters of concern are shown in Table 2. All containers will be cleaned by the laboratory performing the analyses and comply with the QA/QC requirements of NJDEP's Field Sampling Procedure Manual (August 2005). Certified, clean sample containers will be provided by the contracted laboratory.

The field sampling team is required to provide additional sample volume for aqueous samples, excluding field blanks, designated for matrix spike/matrix spike duplicate (MS/MSD) analysis to be performed by the laboratory. This additional volume will be provided once every 20 samples. However, during the post-IRM sampling program, the only aqueous samples that will be collected for laboratory analysis (other than the discharge permit compliance samples) will be field blanks (post-LNAPL monitoring groundwater samples will be discussed under Addendum 3 to the RAWP, submitted under separate cover). MS/MSD analysis will not be performed on field blank samples.

3.4.3 Sample Preservation

Sample preservation will not be required for the soil samples collected during the post-IRM confirmation sampling program, or for any LNAPL samples, if LNAPL is encountered. Field sampling teams will be prepared to add additional preservatives for any aqueous samples collected, if required under the methods which will be identified through the MCUA discharge permit.

All samples (preserved or unpreserved) will be placed in a cooler surrounded by ice as soon as possible to retard potential biological impact. Sample holding times are calculated from the time of collection. Sample holding times are also included in Table 2.

3.4.4 Sample Labeling and Shipping

All samples collected on-site will be given a unique sample identification code as discussed in Section 2.2.3 of this CSP. All sample bottles will be indentified by use of a sample label.

Precautions will be taken to ensure that all samples removed from the site are within the sample container and that no residue remains on the outside of the container.

Samples will be packed and shipped following NJDEP-recommended procedures and in accordance with applicable DOT and IATA regulations. It is assumed that both environmental and hazardous materials samples will be collected and will require shipment from the site. Shipment of samples beyond 24 hours but within 48 hours after collection is allowable if continuous maintenance of samples at 4°C is guaranteed and if the laboratory will receive the samples in time to ensure conformance with holding times.

3.4.5 Sample Receipt and Storage

The analytical laboratory shall follow internal COC procedures associated with sample receipt, storage, preparation, analysis and general security procedures. Upon sample receipt, the sample custodian will inspect the integrity of the sample containers. The presence of broken or leaking samples will be noted on the COC record. The sample custodian will sign (with date and time of receipt) the COC record, thus assuming custody of the samples. The sample custodian will also check the information on the COC record against the sample labels. Any inconsistencies will be resolved with the sampling representative before sample analysis proceeds. After sample receipt, all analytical samples will be stored in a locked sample refrigerator pending sample preparation and analysis. The storage refrigerators are maintained at 4ºC (+ 2ºC). The refrigerator temperature must be monitored routinely.

3.4.6 Analytical Laboratory

It is anticipated that all samples collected under this CSP will be analyzed through TestAmerica, Edison. TestAmerica is a NJDEP-certified laboratory, and holds certification number 12028. Weston reserves the right to use another certified laboratory to conduct the chemical analysis required under this CSP. In the event that an alternate laboratory is selected, Weston will notify NJDEP and USEPA in either a periodic progress report or in an email prior to initiating the field program that will collect the samples to be analyzed by the alternate laboratory.

4.0 QUALITY ASSURANCE AND QUALITY CONTROL SAMPLES

Quality assurance/quality control (QA/QC) samples will be collected in accordance with Weston's Quality Assurance Project Plan (QAPP), included as part of the NJDEP-approved Consolidated RAWP. An updated QAPP was provided in the RAWP Addendum 3, which was submitted to NJDEP and USEPA for approval on 26 August 2009. Table 3 summarizes the QA/QC sampling program that will be used during implementation of this CSP.

During the post-IRM confirmation sampling program, blind field duplicate and matrix spike/matrix spike duplicate (MS/MSD) samples will be collected at a rate of 1 per 20 soil samples for PCB analysis, and at a rate of 1 per 20 soil samples being analyzed for VOC and BN analysis for those specific analyses. Field blanks will be collected once per day per matrix and analyzed for the same parameters as the field samples; however, since all sampling equipment other than the Geoprobe tools will be dedicated, disposable equipment, the field blank samples will be limited to evaluating the efficiency of decontamination of the down-hole Geoprobe tools. Field blanks will be collected by pouring laboratory-supplied analyte-free water over the decontaminated sampling tools into laboratory-supplied bottleware.

A record of all field procedures, tests, and observations will be recorded in a field logbook or on appropriate logging forms. Entries in the log book and field forms will include the individuals participating in the field effort, date and time, and the initials of the individual responsible for recording the observations. Photo-documentation will be conducted with digital photography to provide an extra layer of documentation of the field observations.

QA/QC requirements have not been established for the LNAPL recovery and groundwater treatment system. Those requirements will be determined under the MCUA discharge permit.

5.0 FIELD DECONTAMINATION

Non-dedicated field equipment that comes in direct contact with soil samples (e.g., Macro-Core tips) will be decontaminated using the following methodology, which was designed to be compliant with the requirements of US EPA at 40 CFR 761.79 and NJDEP at the TRSR and FSPM. The decontamination process will be as follows:

- Equipment will be cleared of any gross soil contamination by removing it manually by personnel wearing the appropriate personal protective equipment.
- If necessary to remove the remainder of soil particles, an initial wash in a solution of potable water and laboratory-grade non-phosphate detergent (e.g., Alconox®) using nylon brushes will be done. This wash, if done, will be followed by a potable water rinse.

- All surfaces that have come into contact with PCBs will be swabbed using gauze pads and hexane.
- All equipment will then be cleaned by high pressure hot steam cleaning and air dried.

Unless it will be used immediately, equipment will then be wrapped in foil until ready to use. Decontaminated equipment will be stored on site in a secure equipment storage location until use. Prior to sampling, the decontaminated equipment must be rinsed with demonstrated analyte-free distilled and deionized water. At the completion of the project, or prior to any drilling/heavy equipment being demobilized from the site, all surfaces that have come into contact with PCBs will be swabbed with hexane, and all surfaces will then be steam-cleaned prior to demobilizing the equipment to ensure that no contamination is transported from the sampling site.

6.0 INVESTIGATION-DERIVED WASTE MANAGEMENT

All waste generated during the IRM confirmation sampling program will be handled in accordance with applicable Federal and State requirements. Waste will be segregated according to waste stream, e.g., sampling equipment (Geoprobe acetate sleeves, disposable bailers), personal protective equipment, and decontamination fluids, then containerized in 55-gallon drums or other DOT-approved containers. Bulk samples will be collected from each waste stream for waste classification analysis and the waste will be transported to a licensed waste disposal facility.

While it is anticipated that all materials with PCBs at concentrations of 500 mg/kg or more dry weight will be removed during the IRM, and therefore not be present during the IRM confirmation sampling program, it is likely that Toxic Substances Control Act (TSCA) wastes, those containing PCBs at concentrations of 50 mg/kg or more, will be encountered. All TSCA wastes will be handled, stored, transported and disposed of in accordance with Federal guidelines.

Aqueous wastes such as dewatering liquids will be handled either through the MCUA-permitted groundwater treatment system or will be containerized and hauled off-site by a licensed hauler at a permitted disposal facility.

Note that prior to actual disposal of confirmation sampling program wastes, information identifying specific waste streams, respective PCB levels, and the disposal facilities proposed for use will be provided to US EPA for approval.

Table 1A
Post-IRM Confirmation Sampling Program Soil Sample Summary - 20-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL [2]	Bottom of LNAPL [2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location [3]	Sample Depths (feet below grade) [4]	Sample Matrix	Analytical Parameter; Method	Sampling Method
X04_XR	N/A	N/A	N/A	X05_XR	3-3.5; 5-5.5; 7-7.5	Soil	PCB; 8082 [5]	Geoprobe
X04_XS	N/A	N/A	N/A	X05_XS	4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
X04_XT	N/A	N/A	N/A	X05_XT	2.5-3; 4.5-5; 6.5-7; 8.5-9	Soil	PCB; 8082 [5]	Geoprobe
X05_XQ	N/A	N/A	N/A	X05_XR	3-3.5; 5-5.5; 7-7.5	Soil	PCB; 8082 [5]	Geoprobe
X05_XR	N/A	N/A	N/A	X06_XR	3-3.5; 5-5.5; 7-7.5	Soil	PCB; 8082 [5]	Geoprobe
X05_XS	N/A	N/A	N/A	X06_XS	4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
X05_XT	N/A	N/A	N/A	X06_XT	2.5-3; 4.5-5; 6.5-7; 8.5-9	Soil	PCB; 8082 [5]	Geoprobe
X05_XU	N/A	N/A	N/A	X05_XT	2.5-3; 4.5-5; 6.5-7; 8.5-9	Soil	PCB; 8082 [5]	Geoprobe
X06_XP	N/A	N/A	N/A	X06_XQ	4-4.5; 6-6.5; 8-8.5	Soil	PCB; 8082 [5]	Geoprobe
X06_XQ	N/A	N/A	N/A	X07_XQ	4-4.5; 6-6.5; 8-8.5	Soil	PCB; 8082 [5]	Geoprobe
X06_XR	N/A	N/A	N/A	X07_XR	3-3.5; 5-5.5; 7-7.5	Soil	PCB; 8082 [5]	Geoprobe
X06_XS	6.3	9.3	10.3	--	4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
X06_XT	N/A	N/A	N/A	X07_XT	2.5-3; 4.5-5; 6.5-7; 8.5-9	Soil	PCB; 8082 [5]	Geoprobe
X06_XU	N/A	N/A	N/A	X07_XU	4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [5]	Geoprobe
X06_XV	N/A	N/A	N/A	X06_XU	4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [5]	Geoprobe
X07_XO	N/A	N/A	N/A	X07_XP	4-4.5; 6-6.5; 8-8.5	Soil	PCB; 8082 [5]	Geoprobe
X07_XP	N/A	N/A	N/A	X07_XQ	4-4.5; 6-6.5; 8-8.5	Soil	PCB; 8082 [5]	Geoprobe
X07_XQ	6.4	6.9	7.9	--	4-4.5; 6-6.5; 8-8.5	Soil	PCB; 8082 [5]	Geoprobe
X07_XR	5.1	5.6	6.6	--	3-3.5; 5-5.5; 7-7.5	Soil	PCB; 8082 [5]	Geoprobe
X07_XS	4.1	4.6	5.6	--	2-2.5; 4-4.5; 6-6.5	Soil	PCB; 8082 [5]	Geoprobe
X07_XT	4.9	5.9	6.9	--	2.5-3; 4.5-5; 6.5-7; 8.5-9	Soil	PCB; 8082 [5]	Geoprobe
X07_XU	6.2	9	10	--	4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [5]	Geoprobe
X07_XV	N/A	N/A	N/A	X08_XV	4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [5]	Geoprobe
X07_XW	N/A	N/A	N/A	X07_XV	4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [5]	Geoprobe
X08_XO	N/A	N/A	N/A	X08_XP	None - boring within structure footprint	Soil	PCB; 8082 [5]	Geoprobe
X08_XP	7.1	7.6	8.6	--	None - boring within structure footprint	None	None	None
X08_XQ	5.5	6.4	7.4	--	None - boring within structure footprint	None	None	None
X08_XR	4.2	5.1	6.1	--	None - boring within structure footprint	None	None	None
X08_XS	3.8	4.7	5.7	--	None - boring within structure footprint	None	None	None
X08_XT	4.8	5.5	6.5	--	None - boring within structure footprint	None	None	None
X08_XU	5.5	7	8	--	3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 [5]	Geoprobe
X08_XV	6.1	8.6	9.6	--	4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [5]	Geoprobe
X08_XW	6.7	10.3	11.3	--	4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
X08_XX	N/A	N/A	N/A	X08_XW	4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
X09_XO	N/A	N/A	N/A	X09_XP	None - boring within structure footprint	Soil	PCB; 8082 [5]	Geoprobe
X09_XP	7	8	9	--	None - boring within structure footprint	None	None	None
X09_XQ	4.5	6	7	--	None - boring within structure footprint	None	None	None
X09_XR	3.2	4.7	5.7	--	None - boring within structure footprint	None	None	None
X09_XS	3.5	4.9	5.9	--	None - boring within structure footprint	None	None	None
X09_XT	4.5	5.7	6.7	--	None - boring within structure footprint	None	None	None
X09_XU	5.5	6.5	7.5	--	None - boring within structure footprint	None	None	None
X09_XV	6.1	8.1	9.1	--	4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [5]	Geoprobe

Table 1A
Post-IRM Confirmation Sampling Program Soil Sample Summary - 20-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL[2]	Bottom of LNAPL[2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location[3]	Sample Depths (feet below grade)[4]	Sample Matrix	Analytical Parameter; Method	Sampling Method
X09_XW	6.7	9.7	10.7	--	4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
X09_XX	6.5	10.5	11.5	--	4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
X09_XY	N/A	N/A	N/A	X09_XX	4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
X10_XO	N/A	N/A	N/A	X10_XP	None - boring within structure footprint	Soil	PCB; 8082 [5]	Geoprobe
X10_XP	6.2	7.7	8.7	--	None - boring within structure footprint	None	None	None
X10_XQ	3.6	5.6	6.6	--	None - boring within structure footprint	None	None	None
X10_XR	2.3	4.3	5.3	--	None - boring within structure footprint	None	None	None
X10_XS	3.3	5	6	--	None - boring within structure footprint	None	None	None
X10_XT	4.2	5.8	6.8	--	None - boring within structure footprint	None	None	None
X10_XU	5.2	6.6	7.6	--	None - boring within structure footprint	None	None	None
X10_XV	6.1	7.6	8.6	--	None - boring within structure footprint	None	None	None
X10_XW	6.7	9.1	10.1	--	None - boring within structure footprint	None	None	None
X10_XX	6.5	9.5	10.5	--	None - boring within structure footprint	None	None	None
X10_XY	N/A	N/A	N/A	X10_XX	None - boring within structure footprint	Soil	PCB; 8082 [5]	Geoprobe
X11_XO	N/A	N/A	N/A	X11_XP	None - boring within structure footprint	Soil	PCB; 8082 [5]	Geoprobe
X11_XP	5.4	7.3	8.3	--	None - boring within structure footprint	None	None	None
X11_XQ	2.7	5.2	6.2	--	None - boring within structure footprint	None	None	None
X11_XR	2	4.4	5.4	--	None - boring within structure footprint	None	None	None
X11_XS	3	5.2	6.2	--	None - boring within structure footprint	None	None	None
X11_XT	3.9	6	7	--	None - boring within structure footprint	None	None	None
X11_XU	4.9	6.7	7.7	--	None - boring within structure footprint	None	None	None
X11_XV	5.9	7.5	8.5	--	3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 [5]	Geoprobe
X11_XW	6.5	8.2	9.2	--	4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [5]	Geoprobe
X11_XX	6.3	8.6	9.6	--	4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [5]	Geoprobe
X11_XY	5.7	9.5	10.5	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
X11_XZ	N/A	N/A	N/A	X11_XY	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
X12_XN	N/A	N/A	N/A	X12_XO	5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
X12_XO	7.9	9.5	10.5	--	5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
X12_XP	4.6	7	8	--	None - boring within structure footprint	None	None	None
X12_XQ	1.8	4.7	5.7	--	None - boring within structure footprint	None	None	None
X12_XR	1.7	4.5	5.5	--	None - boring within structure footprint	None	None	None
X12_XS	2.7	5.3	6.3	--	None - boring within structure footprint	None	None	None
X12_XT	3.7	6.1	7.1	--	None - boring within structure footprint	None	None	None
X12_XU	4.8	7.1	8.1	--	None - boring within structure footprint	None	None	None
X12_XV	6.6	8.3	9.3	--	4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [5]	Geoprobe
X12_XW	6.3	8.3	9.3	--	4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [5]	Geoprobe
X12_XX	6.2	8.1	9.1	--	4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [5]	Geoprobe
X12_XY	6	8.1	9.1	--	4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [5]	Geoprobe
X12_XZ	4.6	9.8	10.8	--	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
X12_XAA	N/A	N/A	N/A	X12_XZ	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
X13_XN	N/A	N/A	N/A	X13_XO	5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
X13_XO	7.1	9.1	10.1	--	5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
X13_XP	3.8	6.6	7.6	--	1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 [5]	Geoprobe

Table 1A
Post-IRM Confirmation Sampling Program Soil Sample Summary - 20-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location (1)	Top of LNAPL(2)	Bottom of LNAPL(2)	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location(3)	Sample Depths (feet below grade)(4)	Sample Matrix	Analytical Parameter; Method	Sampling Method
X13_XQ	0.8	4.3	5.3	--	None - boring within structure footprint	None	None	None
X13_XR	1.4	4.7	5.7	--	None - boring within structure footprint	None	None	None
X13_XS	2.5	5.6	6.6	--	None - boring within structure footprint	None	None	None
X13_XT	4.8	7.6	8.6	--	None - boring within structure footprint	None	None	None
X13_XU	6.6	9	10	--	None - boring within structure footprint	None	None	None
X13_XV	6.8	8.2	9.2	--	None - boring within structure footprint	None	None	None
X13_XW	6.1	8.6	9.6	--	4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 (5)	Geoprobe
X13_XX	5.9	8.5	9.5	--	3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 (5)	Geoprobe
X13_XY	4.9	8.3	9.3	--	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 (5)	Geoprobe
X13_XZ	3.9	9	10	--	1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 (5)	Geoprobe
X13_XAA	3.3	10.2	11.2	--	1-1.5; 3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 (5)	Geoprobe
X13_XAB	N/A	N/A	N/A	X13_XAA	1-1.5; 3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 (5)	Geoprobe
X13_XAC	N/A	N/A	N/A	X14_XAC	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5	Soil	PCB; 8082 (5)	Geoprobe
X14_XN	N/A	N/A	N/A	X14_XO	None - boring within structure footprint	Soil	PCB; 8082 (5)	Geoprobe
X14_XO	6.3	8.8	9.8	--	None - boring within structure footprint	None	None	None
X14_XP	3	6.3	7.3	--	None - boring within structure footprint	None	None	None
X14_XQ	0.2	4.1	5.1	--	None - boring within structure footprint	None	None	None
X14_XR	2.4	6.1	7.1	--	None - boring within structure footprint	None	None	None
X14_XS	4.7	8.2	9.2	--	None - boring within structure footprint	None	None	None
X14_XT	6.6	9.6	10.6	--	None - boring within structure footprint	None	None	None
X14_XU	6.8	8.8	9.8	--	None - boring within structure footprint	None	None	None
X14_XV	7	8.1	9.1	--	None - boring within structure footprint	None	None	None
X14_XW	5.9	9	10	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 (5)	Geoprobe
X14_XX	5.2	8.8	9.8	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 (5)	Geoprobe
X14_XY	3.4	8.6	9.6	--	1-1.5; 3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 (5)	Geoprobe
X14_XZ	2.1	8.9	9.9	--	0-.5; 2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 (5)	Geoprobe
X14_XAA	3.3	9.2	10.2	--	1-1.5; 3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 (5)	Geoprobe
X14_XAB	5.2	12.2	13.2	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5	Soil	PCB; 8082 (5)	Geoprobe
X14_XAC	N/A	N/A	N/A	X14_XAB	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5	Soil	PCB; 8082 (5)	Geoprobe
X14_XAD	N/A	N/A	N/A	X14_XAC	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5	Soil	PCB; 8082 (5)	Geoprobe
X15_XM	N/A	N/A	N/A	X15_XN	6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 (5)	Geoprobe
X15_XN	8.7	10.9	11.9	--	6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 (5)	Geoprobe
X15_XO	5.4	8.4	9.4	--	None - boring within structure footprint	None	None	None
X15_XP	2.2	5.9	6.9	--	None - boring within structure footprint	None	None	None
X15_XQ	3.6	7.6	8.6	--	None - boring within structure footprint	None	None	None
X15_XR	5	9	10	--	None - boring within structure footprint	None	None	None
X15_XS	6.6	10.2	11.2	--	None - boring within structure footprint	None	None	None
X15_XT	6.8	9.4	10.4	--	None - boring within structure footprint	None	None	None
X15_XU	7	8.6	9.6	--	None - boring within structure footprint	None	None	None
X15_XV	5.9	9.3	10.3	--	None - boring within structure footprint	None	None	None
X15_XW	5.5	9.3	10.3	--	None - boring within structure footprint	None	None	None
X15_XX	3.7	9.1	10.1	--	None - boring within structure footprint	None	None	None
X15_XY	4.4	10.6	11.6	--	None - boring within structure footprint	None	None	None
X15_XZ	4.2	9.1	10.1	--	None - boring within structure footprint	None	None	None

Table 1A
Post-IRM Confirmation Sampling Program Soil Sample Summary - 20-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL[2]	Bottom of LNAPL[2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location[3]	Sample Depths (feet below grade)[4]	Sample Matrix	Analytical Parameter; Method	Sampling Method
X15_XAA	5.9	8.4	9.4	--	None - boring within structure footprint	None	None	None
X15_XAB	9.1	11.8	12.8	--	None - boring within structure footprint	None	None	None
X15_XAC	15	17.2	18.2	--	None - boring within structure footprint	None	None	None
X15_XAD	N/A	N/A	N/A	X15_XAC	None - boring within structure footprint	None	None	None
X15_XAE	N/A	N/A	N/A	X15_XAD	None - boring within structure footprint	Soil	PCB; 8082 [5]	Geoprobe
X16_XM	N/A	N/A	N/A	X16_XN	None - boring within structure footprint	Soil	PCB; 8082 [5]	Geoprobe
X16_XN	7.9	10.6	11.6	--	None - boring within structure footprint	None	None	None
X16_XO	4.6	8.1	9.1	--	None - boring within structure footprint	None	None	None
X16_XP	5.3	9.1	10.1	--	None - boring within structure footprint	None	None	None
X16_XQ	See 5-foot grid sample summary table							
X16_XR	See 5-foot grid sample summary table							
X16_XS	See 5-foot grid sample summary table							
X16_XT	See 5-foot grid sample summary table							
X16_XU	See 5-foot grid sample summary table							
X16_XV	See 5-foot grid sample summary table							
X16_XW	See 5-foot grid sample summary table							
X16_XX	See 5-foot grid sample summary table							
X16_XY	See 5-foot grid sample summary table							
X16_XZ	6.1	10.8	11.8	--	4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5			
X16_XAA	10.5	13	14	--	8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
X16_XAB	9.9	12.7	13.7	--	None - boring within structure footprint	None	None	None
X16_XAC	14	16.5	17.5	--	None - boring within structure footprint	None	None	None
X16_XAD	N/A	N/A	N/A	X16_XAC	None - boring within structure footprint	None	None	None
X16_XAE	N/A	N/A	N/A	X16_XAD	None - boring within structure footprint	None	None	None
X16_XAF	N/A	N/A	N/A	X16_XAE	None - boring within structure footprint	Soil	PCB; 8082 [5]	Geoprobe
X17_XM	N/A	N/A	N/A	X17_XN	5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
X17_XN	7.1	10.2	11.2	--	5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
X17_XO	7.1	10.6	11.6	--	5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5			
X17_XP	7.1	10.8	11.8	--	5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5			
X17_XQ	See 5-foot grid sample summary table							
X17_XR	See 5-foot grid sample summary table							
X17_XS	See 5-foot grid sample summary table							
X17_XT	See 5-foot grid sample summary table							
X17_XU	See 5-foot grid sample summary table							
X17_XV	See 5-foot grid sample summary table							
X17_XW	See 5-foot grid sample summary table							
X17_XX	See 5-foot grid sample summary table							
X17_XY	See 5-foot grid sample summary table							
X17_XZ	10.5	15.1	16.1	--	8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17			
X17_XAA	13.3	15.7	16.7	--	11-11.5; 13-13.5; 15-15.5; 17-17.5	Soil	PCB; 8082 [5]	Geoprobe
X17_XAB	10.7	13.6	14.6	--	None - boring within structure footprint	None	None	None
X17_XAC	11.3	14.1	15.1	--	None - boring within structure footprint	None	None	None
X17_XAD	N/A	N/A	N/A	X17_XAC	None - boring within structure footprint	None	None	None
X17_XAE	N/A	N/A	N/A	X17_XAD	None - boring within structure footprint	Soil	PCB; 8082 [5]	Geoprobe
X17_XAF	N/A	N/A	N/A	X17_XAE	None - boring within structure footprint	Soil	PCB; 8082 [5]	Geoprobe

Table 1A

Post-IRM Confirmation Sampling Program Soil Sample Summary - 20-Foot Grid

Hatco Corporation Site, Fords, New Jersey

Sample Grid Location (1)	Top of LNAPL(2)	Bottom of LNAPL(2)	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location(3)	Sample Depths (feet below grade)(4)	Sample Matrix	Analytical Parameter; Method	Sampling Method
X17_XAG	N/A	N/A	N/A	X17_XAF	None - boring within structure footprint	Soil	PCB; 8082 (5)	Geoprobe
X18_XL	N/A	N/A	N/A	X18_XM	7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 (5)	Geoprobe
X18_XM	9.6	12.4	13.4	--	7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 (5)	Geoprobe
X18_XN	8.8	12.1	13.1	--	6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 (5)	Geoprobe
X18_XO	7.9	11.4	12.4	--	5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14			
X18_XP	7	10.6	11.6	--	5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5			
X18_XQ	See 5-foot grid sample summary table							
X18_XR	See 5-foot grid sample summary table							
X18_XS	See 5-foot grid sample summary table							
X18_XT	See 5-foot grid sample summary table							
X18_XU	See 5-foot grid sample summary table							
X18_XV	See 5-foot grid sample summary table							
X18_XW	See 5-foot grid sample summary table							
X18_XX	See 5-foot grid sample summary table							
X18_XY	See 5-foot grid sample summary table							
X18_XZ	11.1	17.9	18.9	--	9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5; 19-19.5			
X18_XAA	7.6	16.6	17.6	--	5.5-6; .5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18; 19.5-20	Soil	PCB; 8082 (5)	Geoprobe
X18_XAB	11.8	14.8	15.8	--	9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18	Soil	PCB; 8082 (5)	Geoprobe
X18_XAC	8.7	11.8	12.8	--	6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 (5)	Geoprobe
X18_XAD	4.6	8	9	--	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 (5)	Geoprobe
X18_XAE	N/A	N/A	N/A	X18_XAD	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 (5)	Geoprobe
X18_XAF	N/A	N/A	N/A	X18_XAE	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 (5)	Geoprobe
X18_XAG	N/A	N/A	N/A	X18_XAF	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 (5)	Geoprobe
X19_XL	N/A	N/A	N/A	X19_XM	7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16	Soil	PCB; 8082 (5)	Geoprobe
X19_XM	9.7	12.7	13.7	--	7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16	Soil	PCB; 8082 (5)	Geoprobe
X19_XN	8.7	12	13	--	6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 (5)	Geoprobe
X19_XO	7.7	11.2	12.2	--	5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14			
X19_XP	6.9	10.5	11.5	--	4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13			
X19_XQ	See 5-foot grid sample summary table							
X19_XR	See 5-foot grid sample summary table							
X19_XS	See 5-foot grid sample summary table							
X19_XT	See 5-foot grid sample summary table							
X19_XU	See 5-foot grid sample summary table							
X19_XV	See 5-foot grid sample summary table							
X19_XW	See 5-foot grid sample summary table							
X19_XX	See 5-foot grid sample summary table							
X19_XY	See 5-foot grid sample summary table							
X19_XZ	See 5-foot grid sample summary table							
X19_XAA	N/A	N/A	N/A	X19_XAB	7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16	Soil	PCB; 8082 (5)	Geoprobe
X19_XAB	9.9	12.9	13.9	--	7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16	Soil	PCB; 8082 (5)	Geoprobe
X19_XAC	5.9	9	10	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 (5)	Geoprobe
X19_XAD	3.5	7	8	--	1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 (5)	Geoprobe
X19_XAE	N/A	N/A	N/A	X19_XAD	1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 (5)	Geoprobe
X19_XAF	N/A	N/A	N/A	X19_XAE	1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 (5)	Geoprobe

Table 1A
Post-IRM Confirmation Sampling Program Soil Sample Summary - 20-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location (1)	Top of LNAPL(2)	Bottom of LNAPL(2)	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location(3)	Sample Depths (feet below grade)(4)	Sample Matrix	Analytical Parameter; Method	Sampling Method
X19_XAG	N/A	N/A	N/A	X19_XAF	1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 (5)	Geoprobe
X19_XAH	N/A	N/A	N/A	X19_XAG	1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 (5)	Geoprobe
X20_XI	N/A	N/A	N/A	X21_XI	6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 (5)	Geoprobe
X20_XJ	N/A	N/A	N/A	X21_XJ	6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 (5)	Geoprobe
X20_XK	N/A	N/A	N/A	X21_XK	6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 (5)	Geoprobe
X20_XL	9.5	11.2	12.2	--	7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 (5)	Geoprobe
X20_XM	9.3	12	13	--	7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 (5)	Geoprobe
X20_XN	6.1	12.3	13.3	--	4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 (5)	Geoprobe
X20_XO	6.6	10.1	11.1	--	4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13			
X20_XP	6.3	10.2	11.2	--	4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5			
X20_XQ	See 5-foot grid sample summary table							
X20_XR	See 5-foot grid sample summary table							
X20_XS	See 5-foot grid sample summary table							
X20_XT	See 5-foot grid sample summary table							
X20_XU	See 5-foot grid sample summary table							
X20_XV	See 5-foot grid sample summary table							
X20_XW	See 5-foot grid sample summary table							
X20_XX	See 5-foot grid sample summary table							
X20_XY	See 5-foot grid sample summary table							
X20_XZ	See 5-foot grid sample summary table							
X20_XAA	N/A	N/A	N/A	X20_XAB	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 (5)	Geoprobe
X20_XAB	N/A	N/A	N/A	X20_XAC	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 (5)	Geoprobe
X20_XAC	4.4	7.8	8.8	--	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 (5)	Geoprobe
X20_XAD	N/A	N/A	N/A	X20_XAC	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 (5)	Geoprobe
X20_XAE	N/A	N/A	N/A	X20_XAD	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 (5)	Geoprobe
X20_XAF	N/A	N/A	N/A	X20_XAE	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 (5)	Geoprobe
X20_XAG	N/A	N/A	N/A	X20_XAF	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 (5)	Geoprobe
X20_XAH	N/A	N/A	N/A	X20_XAG	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 (5)	Geoprobe
X21_XF	N/A	N/A	N/A	X22_XF	4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 (5)	Geoprobe
X21_XG	N/A	N/A	N/A	X22_XG	4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 (5)	Geoprobe
X21_XH	N/A	N/A	N/A	X22_XH	5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 (5)	Geoprobe
X21_XI	8.2	9.5	10.5	--	6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 (5)	Geoprobe
X21_XJ	8.7	9.3	10.3	--	6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 (5)	Geoprobe
X21_XK	8.1	8.6	9.6	--	6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 (5)	Geoprobe
X21_XL	7.7	8.7	9.7	--	5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 (5)	Geoprobe
X21_XM	7.9	14.5	15.5	--	5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16	Soil	PCB; 8082 (5)	Geoprobe
X21_XN	6.5	9.9	10.9	--	4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13			
X21_XO	6.6	9.1	10.1	--	4.5-5; 6.5-7; 8.5-9; 10.5-11			
X21_XP	5.7	9.8	10.8	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12			
X21_XQ	See 5-foot grid sample summary table							
X21_XR	See 5-foot grid sample summary table							
X21_XS	See 5-foot grid sample summary table							
X21_XT	See 5-foot grid sample summary table							

Table 1A
Post-IRM Confirmation Sampling Program Soil Sample Summary - 20-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location (1)	Top of LNAPL(2)	Bottom of LNAPL(2)	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location(3)	Sample Depths (feet below grade)(4)	Sample Matrix	Analytical Parameter; Method	Sampling Method
X21_XU	See 5-foot grid sample summary table							
X21_XV	See 5-foot grid sample summary table							
X21_XW	See 5-foot grid sample summary table							
X21_XX	See 5-foot grid sample summary table							
X21_XY	See 5-foot grid sample summary table							
X21_XZ	See 5-foot grid sample summary table							
X21_XAB	N/A	N/A	N/A	X21_XAC	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 (5)	Geoprobe
X21_XAC	5.1	8.8	9.8	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 (5)	Geoprobe
X21_XAD	N/A	N/A	N/A	X21_XAC	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 (5)	Geoprobe
X21_XAE	N/A	N/A	N/A	X21_XAD	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 (5)	Geoprobe
X21_XAF	N/A	N/A	N/A	X21_XAE	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 (5)	Geoprobe
X21_XAG	N/A	N/A	N/A	X21_XAF	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 (5)	Geoprobe
X21_XAH	N/A	N/A	N/A	X21_XAG	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 (5)	Geoprobe
X22_XE	N/A	N/A	N/A	X22_XF	4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 (5)	Geoprobe
X22_XF	N/A	N/A	N/A	X22_XG	4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 (5)	Geoprobe
X22_XG	6.6	9	10	--	4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 (5)	Geoprobe
X22_XH	7.5	8.9	9.9	--	5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 (5)	Geoprobe
X22_XI	7.6	8.4	9.4	--	5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 (5)	Geoprobe
X22_XJ	7.4	8.3	9.3	--	5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 (5)	Geoprobe
X22_XK	7.5	8.6	9.6	--	5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 (5)	Geoprobe
X22_XL	7.7	10.9	11.9	--	5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 (5)	Geoprobe
X22_XM	7.7	11.8	12.8	--	5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 (5)	Geoprobe
X22_XN	6.9	8	9	--	4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 (5)	Geoprobe
X22_XO	6.4	8.5	9.5	--	4-4.5; 6-6.5; 8-8.5; 10-10.5			
X22_XP	5.8	9.1	10.1	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12			
X22_XQ	See 5-foot grid sample summary table							
X22_XR	See 5-foot grid sample summary table							
X22_XS	See 5-foot grid sample summary table							
X22_XT	See 5-foot grid sample summary table							
X22_XU	See 5-foot grid sample summary table							
X22_XV	See 5-foot grid sample summary table							
X22_XW	See 5-foot grid sample summary table							
X22_XX	See 5-foot grid sample summary table							
X22_XY	See 5-foot grid sample summary table							
X22_XZ	See 5-foot grid sample summary table							
X22_XAC	N/A	N/A	N/A	X21_XAC	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 (5)	Geoprobe
X22_XAD	N/A	N/A	N/A	X22_XAC	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 (5)	Geoprobe
X22_XAE	N/A	N/A	N/A	X22_XAD	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 (5)	Geoprobe
X22_XAF	N/A	N/A	N/A	X22_XAE	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 (5)	Geoprobe
X22_XAG	N/A	N/A	N/A	X22_XAF	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 (5)	Geoprobe
X23_XD	N/A	N/A	N/A	X23_XE	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 (5)	Geoprobe
X23_XE	N/A	N/A	N/A	X23_XF	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 (5)	Geoprobe
X23_XF	5.8	8.9	9.9	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 (5)	Geoprobe

Table 1A
Post-IRM Confirmation Sampling Program Soil Sample Summary - 20-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL[2]	Bottom of LNAPL[2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location[3]	Sample Depths (feet below grade)[4]	Sample Matrix	Analytical Parameter; Method	Sampling Method
X23_XG	5	10.9	11.9	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
X23_XH	7	8.9	9.9	--	5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
X23_XI	7.7	9.6	10.6	--	5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
X23_XJ	8.3	10.3	11.3	--	6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
X23_XK	8.4	10.6	11.6	--	6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
X23_XL	8.6	12.6	13.6	--	6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
X23_XM	7.9	9.5	10.5	--	5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
X23_XN	5.5	10.4	11.4	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
X23_XO	6.5	7.8	8.8	--	4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [5]	Geoprobe
X23_XP	5.9	8.4	9.4	--	3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 [5]	Geoprobe
X23_XQ	5.4	8.9	9.9	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
X23_XR	5.4	9.8	10.8	--	None - boring within structure footprint	None	None	None
X23_XS	5.4	11.2	12.2	--	None - boring within structure footprint	None	None	None
X23_XT	6.1	11.8	12.8	--	None - boring within structure footprint	None	None	None
X23_XU	5.5	12	13	--	None - boring within structure footprint	None	None	None
X23_XV	5.7	12	13	--	None - boring within structure footprint	None	None	None
X23_XW	5.9	12	13	--	None - boring within structure footprint	None	None	None
X23_XX	6.5	13.4	14.4	--	None - boring within structure footprint	None	None	None
X23_XY	7.6	11.7	12.7	--	5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
X23_XZ	N/A	N/A	N/A	X23_XY	5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
X23_XAD	N/A	N/A	N/A	X22_XAD	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
X23_XAE	N/A	N/A	N/A	X22_XAE	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
X23_XAF	N/A	N/A	N/A	X22_XAF	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
X23_XAG	N/A	N/A	N/A	X22_XAF	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
X24_XD	N/A	N/A	N/A	X24_XE	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
X24_XE	N/A	N/A	N/A	X24_XF	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
X24_XF	5	8.5	9.5	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
X24_XG	5.3	9.8	10.8	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
X24_XH	6.6	9.7	10.7	--	4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
X24_XI	7.2	10.4	11.4	--	5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
X24_XJ	7.7	10.9	11.9	--	5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
X24_XK	8.2	11.3	12.3	--	6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
X24_XL	8.4	11	12	--	6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
X24_XM	8	9.4	10.4	--	6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
X24_XN	3.9	12.9	13.9	--	1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16	Soil	PCB; 8082 [5]	Geoprobe
X24_XO	5.7	7.6	8.6	--	3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 [5]	Geoprobe
X24_XP	6	7.7	8.7	--	4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [5]	Geoprobe
X24_XQ	5.8	8	9	--	3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 [5]	Geoprobe
X24_XR	5.8	9.3	10.3	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
X24_XS	5.9	10.8	11.8	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
X24_XT	5.9	12	13	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
X24_XU	6.1	12	13	--	4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe

Table 1A
Post-IRM Confirmation Sampling Program Soil Sample Summary - 20-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL[2]	Bottom of LNAPL[2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location[3]	Sample Depths (feet below grade)[4]	Sample Matrix	Analytical Parameter; Method	Sampling Method
X24_XV	6.3	12	13	--	4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
X24_XW	6.5	12	13	--	4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
X24_XX	6.7	12	13	--	4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
X24_XY	8	10.1	11.1	--	6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
X24_XZ	N/A	N/A	N/A	X24_XY	6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
X25_XD	N/A	N/A	N/A	X25_XE	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [5]	Geoprobe
X25_XE	N/A	N/A	N/A	X25_XF	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [5]	Geoprobe
X25_XF	4.4	8.1	9.1	--	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [5]	Geoprobe
X25_XG	4	9.1	10.1	--	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
X25_XH	5.9	9.6	10.6	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
X25_XI	6.2	9.7	10.7	--	4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
X25_XJ	6.5	9.8	10.8	--	4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
X25_XK	6.8	9.9	10.9	--	4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
X25_XL	7.1	9.8	10.8	--	5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
X25_XM	7.2	8.2	9.2	--	5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
X25_XN	4.3	10	11	--	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
X25_XO	5.2	7.4	8.4	--	3-3.5; 5-5.5; 7-7.5; 9-9.5	Soil	PCB; 8082 [5]	Geoprobe
X25_XP	5.2	9.1	10.1	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
X25_XQ	5.6	9.8	10.8	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
X25_XR	5.6	10.6	11.6	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
X25_XS	5.5	12.3	13.3	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
X25_XT	5.3	12.1	13.1	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5	Soil	PCB; 8082 [5]	Geoprobe
X25_XU	5.3	11.2	12.2	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
X25_XV	5.6	11.2	12.2	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
X25_XW	5.8	11.2	12.2	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
X25_XX	5.6	11.5	12.5	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
X25_XY	7.8	12.1	13.1	--	5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
X25_XZ	N/A	N/A	N/A	X25_XY	5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
X26_XD	N/A	N/A	N/A	X26_XE	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
X26_XE	N/A	N/A	N/A	X26_XF	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
X26_XF	5.3	9	10	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
X26_XG	7.6	8.8	9.8	--	5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
X26_XH	5.4	9.4	10.4	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
X26_XI	5.9	9.3	10.3	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
X26_XJ	6.4	9.3	10.3	--	4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
X26_XK	6.8	9.2	10.2	--	4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [5]	Geoprobe
X26_XL	6.8	8.5	9.5	--	4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [5]	Geoprobe
X26_XM	4	9.7	10.7	--	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
X26_XN	4.8	6.9	7.9	--	2.5-3; 4.5-5; 6.5-7; 8.5-9	Soil	PCB; 8082 [5]	Geoprobe
X26_XO	4.8	8.7	9.7	--	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [5]	Geoprobe
X26_XP	4.8	10.4	11.4	--	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe

Table 1A
Post-IRM Confirmation Sampling Program Soil Sample Summary - 20-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [(1)]	Top of LNAPL[(2)]	Bottom of LNAPL[(2)]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location[(3)]	Sample Depths (feet below grade)[(4)]	Sample Matrix	Analytical Parameter; Method	Sampling Method
X26_XQ	4.8	12.1	13.1	--	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [(5)]	Geoprobe
X26_XR	4.8	13.8	14.8	--	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17	Soil	PCB; 8082 [(5)]	Geoprobe
X26_XS	4.9	14.8	15.8	--	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17	Soil	PCB; 8082 [(5)]	Geoprobe
X27_XE	N/A	N/A	N/A	X27_XF	4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [(5)]	Geoprobe
X27_XF	6.1	9.3	10.3	--	4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [(5)]	Geoprobe
X27_XG	7.6	9.1	10.1	--	5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [(5)]	Geoprobe
X27_XH	6	9.5	10.5	--	4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [(5)]	Geoprobe
X27_XI	5.4	9.1	10.1	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [(5)]	Geoprobe
X27_XJ	4.9	8.7	9.7	--	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [(5)]	Geoprobe
X27_XK	4.3	8.2	9.2	--	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [(5)]	Geoprobe
X27_XL	5.3	7.2	8.2	--	3-3.5; 5-5.5; 7-7.5; 9-9.5	Soil	PCB; 8082 [(5)]	Geoprobe
X27_XM	4.3	6.5	7.5	--	2-2.5; 4-4.5; 6-6.5; 8-8.5	Soil	PCB; 8082 [(5)]	Geoprobe
X27_XN	4.3	8.2	9.2	--	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [(5)]	Geoprobe
X27_XO	4.3	9.9	10.9	--	None - boring within structure footprint	None	None	None
X27_XP	4.3	11.6	12.6	--	None - boring within structure footprint	None	None	None
X27_XQ	4.4	13.1	14.1	--	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5	Soil	PCB; 8082 [(5)]	Geoprobe
X27_XR	4.6	14.5	15.5	--	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17	Soil	PCB; 8082 [(5)]	Geoprobe
X27_XS	4.7	15.2	16.2	--	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17	Soil	PCB; 8082 [(5)]	Geoprobe
X28_XE	N/A	N/A	N/A	X28_XF	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [(5)]	Geoprobe
X28_XF	4.2	8.2	9.2	--	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [(5)]	Geoprobe
X28_XG	6.2	8.6	9.6	--	4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [(5)]	Geoprobe
X28_XH	6.9	9.2	10.2	--	4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [(5)]	Geoprobe
X28_XI	5.9	9.2	10.2	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [(5)]	Geoprobe
X28_XJ	5.2	9	10	--	None - boring within structure footprint	None	None	None
X28_XK	4.5	9	10	--	None - boring within structure footprint	None	None	None
X28_XL	5.9	8	9	--	None - boring within structure footprint	None	None	None
X28_XM	4.2	7.2	8.2	--	None - boring within structure footprint	None	None	None
X28_XN	4.5	8.1	9.1	--	None - boring within structure footprint	None	None	None
X28_XO	4.6	9.5	10.5	--	None - boring within structure footprint	None	None	None
X28_XP	4.8	10.8	11.8	--	None - boring within structure footprint	None	None	None
X28_XQ	5	12.1	13.1	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5	Soil	PCB; 8082 [(5)]	Geoprobe
X28_XR	5.1	13.5	14.5	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5	Soil	PCB; 8082 [(5)]	Geoprobe
X28_XS	5.3	14.8	15.8	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5	Soil	PCB; 8082 [(5)]	Geoprobe
X29_XF	N/A	N/A	N/A	X29_XG	3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 [(5)]	Geoprobe
X29_XG	5.5	8.3	9.3	--	3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 [(5)]	Geoprobe
X29_XH	7.2	9.5	10.5	--	5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [(5)]	Geoprobe
X29_XI	5.9	8.9	9.9	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [(5)]	Geoprobe
X29_XJ	5.2	9.5	10.5	--	None - boring within structure footprint	None	None	None
X29_XK	4.5	9.8	10.8	--	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [(5)]	Geoprobe
X29_XL	4.1	9.4	10.4	--	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [(5)]	Geoprobe
X29_XM	4.3	10	11	--	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [(5)]	Geoprobe
X29_XN	4.6	10.5	11.5	--	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [(5)]	Geoprobe

Table 1A
Post-IRM Confirmation Sampling Program Soil Sample Summary - 20-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location (1)	Top of LNAPL(2)	Bottom of LNAPL(2)	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location(3)	Sample Depths (feet below grade)(4)	Sample Matrix	Analytical Parameter; Method	Sampling Method
X29_XO	4.8	11	12	--	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 (5)	Geoprobe
X29_XP	5.1	11.6	12.6	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 (5)	Geoprobe
X29_XQ	5.4	12.1	13.1	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5	Soil	PCB; 8082 (5)	Geoprobe
X29_XR	5.6	12.7	13.7	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16	Soil	PCB; 8082 (5)	Geoprobe
X29_XS	5.8	13.8	14.8	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16	Soil	PCB; 8082 (5)	Geoprobe
X30_XF	N/A	N/A	N/A	X29_XG	3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 (5)	Geoprobe
X30_XG	N/A	N/A	N/A	X30_XH	3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 (5)	Geoprobe
X30_XH	5.7	8.1	9.1	--	3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 (5)	Geoprobe
X30_XI	5.9	7.6	8.6	--	3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 (5)	Geoprobe
X30_XJ	5.1	7.9	8.9	--	3-3.5; 5-5.5; 7-7.5; 9-9.5	Soil	PCB; 8082 (5)	Geoprobe
X30_XK	4.4	8.7	9.7	--	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 (5)	Geoprobe
X30_XL	4.3	9.2	10.2	--	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 (5)	Geoprobe
X30_XM	4.6	9.7	10.7	--	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 (5)	Geoprobe
X30_XN	4.9	10.2	11.2	--	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 (5)	Geoprobe
X30_XO	5.1	10.8	11.8	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 (5)	Geoprobe
X30_XP	5.4	11.3	12.3	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 (5)	Geoprobe
X30_XQ	5.7	11.8	12.8	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 (5)	Geoprobe
X30_XR	5.5	12.3	13.3	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 (5)	Geoprobe
X30_XS	5.6	12.9	13.9	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16	Soil	PCB; 8082 (5)	Geoprobe
X30_XT	5.8	8.8	9.8	--	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 (5)	Geoprobe
X31_XG	N/A	N/A	N/A	X30_XH	3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 (5)	Geoprobe
X31_XH	N/A	N/A	N/A	X30_XH	3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 (5)	Geoprobe
X31_XI	N/A	N/A	N/A	X30_XI	3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 (5)	Geoprobe
X31_XK	4.4	7.8	8.8	--	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 (5)	Geoprobe
X31_XL	4.7	7.9	8.9	--	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 (5)	Geoprobe
X31_XM	5	8.4	9.4	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 (5)	Geoprobe
X31_XN	5.3	8.9	9.9	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 (5)	Geoprobe
X31_XO	5.1	9.5	10.5	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 (5)	Geoprobe
X31_XP	4.9	10	11	--	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 (5)	Geoprobe
X31_XQ	5	10.6	11.6	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 (5)	Geoprobe
X31_XR	5.1	11.2	12.2	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 (5)	Geoprobe
X31_XS	5.2	11.8	12.8	--	3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 (5)	Geoprobe
X31_XT	4.9	9.7	10.7	--	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 (5)	Geoprobe
X32_XN	4.4	7.7	8.7	--	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 (5)	Geoprobe
X32_XO	4.3	8.3	9.3	--	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 (5)	Geoprobe
X32_XP	4.4	8.9	9.9	--	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 (5)	Geoprobe
X32_XQ	4.5	9.5	10.5	--	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 (5)	Geoprobe
X32_XR	4.6	10.1	11.1	--	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 (5)	Geoprobe
X32_XS	4.7	10.6	11.6	--	2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 (5)	Geoprobe
X33_XN	3.7	6.6	7.6	--	1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 (5)	Geoprobe
X33_XO	3.8	7.2	8.2	--	1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 (5)	Geoprobe

Table 1A
Post-IRM Confirmation Sampling Program Soil Sample Summary - 20-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location (1)	Top of LNAPL(2)	Bottom of LNAPL(2)	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location(3)	Sample Depths (feet below grade)(4)	Sample Matrix	Analytical Parameter; Method	Sampling Method
X33_XP	4	7.8	8.8	--	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 (5)	Geoprobe
X33_XQ	4.1	8.4	9.4	--	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 (5)	Geoprobe
X33_XR	4.2	9	10	--	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 (5)	Geoprobe
X33_XS	4.2	9.2	10.2	--	2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 (5)	Geoprobe
X34_XN	3.5	5.9	6.9	--	1.5-2; 3.5-4; 5.5-6; 7.5-8	Soil	PCB; 8082 (5)	Geoprobe
X34_XO	3.5	6.3	7.3	--	1.5-2; 3.5-4; 5.5-6; 7.5-8	Soil	PCB; 8082 (5)	Geoprobe
X34_XP	3.5	6.6	7.6	--	1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 (5)	Geoprobe
X34_XQ	3.6	7.2	8.2	--	1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 (5)	Geoprobe
X34_XR	3.7	7.8	8.8	--	1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 (5)	Geoprobe
X35_XN	N/A	N/A	N/A	X34_XN	1.5-2; 3.5-4; 5.5-6; 7.5-8	Soil	PCB; 8082 (5)	Geoprobe
X35_XO	N/A	N/A	N/A	X34_XO	1.5-2; 3.5-4; 5.5-6; 7.5-8	Soil	PCB; 8082 (5)	Geoprobe
X35_XP	N/A	N/A	N/A	X34_XP	1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 (5)	Geoprobe
X35_XQ	N/A	N/A	N/A	X34_XQ	1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 (5)	Geoprobe
X35_XR	N/A	N/A	N/A	X34_XR	1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 (5)	Geoprobe

NOTES:

(1) Note that sampling locations are proposed based on current understanding of the limits of the LNAPL plume. If evidence of current or former product is observed during post-IRM sampling in an "outermost" sample (above proposed shallowest or below deepest sample proposed for each sampling grid node, or beyond the anticipated bounds of the anticipated horizontal limits of LNAPL, the post-RIM sampling program will be "steeped out" either by depth, by lateral distance, or both, as appropriate to document complete removal of LNAPL.

(2) Feet below grade, based on assessment of historic and 2007 pre-design investigation boring logs. Graphical depiction of top of LNAPL and bottom of LNAPL are provided in Attachment A on Figures A1 and A2.

(3) Adjacent boring is listed only for those borings being sampled beyond the limits of the LNAPL plume. The sample in depths are the same as appropriate for the identified adjacent boring that is located within the limits of the LNAPL plume.

(4) Shallowest post-remedy sample is from the 2-foot interval above top of historic LNAPL. Additional samples are collected at 2-foot intervals until the depth beyond the bottom of LNAPL. Deepest post-remedy sample is from the "next" 2-foot interval below the lowest observed LNAPL depth, to account for potential lowering of the water table during active LNAPL recovery.

(5) All samples collected for PCB, 10% of environmental samples also collected for VOC by Method 8260B and BNs by Method 8270C.

--: Boring location is within limits of LNAPL plume; inferred top and bottom of this boring are used to determine sample depths

BNA: Base/Neutral extractable compounds

LNAPL: Light non-aqueous phase liquid

N/A: Top of LNAPL and bottom of LNAPL have not been measured - boring is beyond known limits of LNAPL plume

PCB: Polychlorinated biphenyls

VOC: Volatile organic compounds

8082: U.S. Environmental Protection Agency SW-842 Method 8082

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL [2]	Bottom of LNAPL [2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location [3]	Sample Depths (feet below grade) [4]	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X01_5XI	2.2	5.9	6.9		None - boring within structure footprint	None	None	None
5X01_5XJ	2.2	6.1	7.1		None - boring within structure footprint	None	None	None
5X01_5XK	2.7	6.6	7.6		None - boring within structure footprint	None	None	None
5X01_5XL	3.1	7.1	8.1		None - boring within structure footprint	None	None	None
5X01_5XM	3.6	7.6	8.6		None - boring within structure footprint	None	None	None
5X01_5XN	4.1	8.1	9.1		None - boring within structure footprint	None	None	None
5X01_5XO	4.4	8.4	9.4		None - boring within structure footprint	None	None	None
5X01_5XP	4.7	8.7	9.7		None - boring within structure footprint	None	None	None
5X01_5XQ	5	9	10		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB;8082 [5]	Geoprobe
5X01_5XR	5.3	9.3	10.3		None - boring in underground utility corridor	None	None	None
5X01_5XS	5.8	9.8	10.8		None - boring in underground utility corridor	None	None	None
5X01_5XT	6.4	10.3	11.3		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB;8082 [5]	Geoprobe
5X01_5XU	6.6	10.2	11.2		None - boring within structure footprint	None	None	None
5X01_5XV	6.6	10	11		None - boring within structure footprint	None	None	None
5X01_5XW	6.7	9.8	10.8		None - boring within structure footprint	None	None	None
5X01_5XX	6.7	9.6	10.6		None - boring within structure footprint	None	None	None
5X01_5XY	6.8	9.4	10.4		None - boring within structure footprint	None	None	None
5X01_5XZ	6.9	9.2	10.2		None - boring within structure footprint	None	None	None
5X01_5XAA	6.9	9	10		None - boring within structure footprint	None	None	None
5X01_5XAB	7	8.8	9.8		None - boring within structure footprint	None	None	None
5X01_5XAC	7	8.6	9.6		None - boring within structure footprint	None	None	None
5X01_5XAD	7.1	8.4	9.4		None - boring within structure footprint	None	None	None
5X01_5XAE	7.2	8.2	9.2		None - boring within structure footprint	None	None	None
5X01_5XAF	7.2	8	9		None - boring within structure footprint	None	None	None
5X01_5XAG	5.9	9.3	10.3		None - boring within structure footprint	None	None	None
5X01_5XAH	5.7	9.4	10.4		None - boring within structure footprint	None	None	None
5X01_5XAI	5.7	9.4	10.4		None - boring within structure footprint	None	None	None
5X01_5XAJ	5.7	9.4	10.4		None - boring within structure footprint	None	None	None
5X01_5XAK	5.5	9.3	10.3		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB;8082 [5]	Geoprobe
5X01_5XAL	5	9.3	10.3		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB;8082 [5]	Geoprobe
5X01_5XAM	4.6	9.2	10.2		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB;8082 [5]	Geoprobe
5X01_5XAN	4.2	9.2	10.2		2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB;8082 [5]	Geoprobe
5X01_5XAO	3.7	9.1	10.1		None - boring in underground utility corridor	None	None	None
5X01_5XAP	3.4	9.1	10.1		None - boring in underground utility corridor	None	None	None
5X01_5XAQ	3.6	9.5	10.5		None - boring in underground utility corridor	None	None	None
5X01_5XAR	4	10.1	11.1		None - boring in underground utility corridor	None	None	None
5X01_5XAS	4.4	10.6	11.6		None - boring in underground utility corridor	None	None	None
5X01_5XAT	4.8	11.1	12.1		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 [5]	Geoprobe
5X01_5XAU	3.6	10.4	11.4		None - boring in underground utility corridor	None	None	None
5X01_5XAV	3.7	9.7	10.7		None - boring in underground utility corridor	None	None	None
5X01_5XAW	4.2	9.1	10.1		None - boring in underground utility corridor	None	None	None
5X02_5XI	2.7	6.5	7.5		None - boring within structure footprint	None	None	None
5X02_5XJ	3.1	6.9	7.9		None - boring within structure footprint	None	None	None
5X02_5XK	3.6	7.4	8.4		None - boring within structure footprint	None	None	None
5X02_5XL	4	7.9	8.9		None - boring within structure footprint	None	None	None
5X02_5XM	4.5	8.4	9.4		None - boring within structure footprint	None	None	None
5X02_5XN	4.9	8.9	9.9		None - boring in underground utility corridor	None	None	None
5X02_5XO	5.3	9.3	10.3		None - boring in underground utility corridor	None	None	None
5X02_5XP	5.6	9.6	10.6		None - boring in underground utility corridor	None	None	None
5X02_5XQ	5.9	9.9	10.9		None - boring in underground utility corridor	None	None	None
5X02_5XR	6.2	10.2	11.2		None - boring in underground utility corridor	None	None	None
5X02_5XS	6.5	10.5	11.5		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 [5]	Geoprobe
5X02_5XT	6.5	10.4	11.4		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 [5]	Geoprobe

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL[2]	Bottom of LNAPL[2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location[3]	Sample Depths (feet below grade)[4]	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X02_5XU	6.6	10.2	11.2		None - boring within structure footprint	None	None	None
5X02_5XV	6.7	10	11		None - boring within structure footprint	None	None	None
5X02_5XW	6.7	9.8	10.8		None - boring within structure footprint	None	None	None
5X02_5XX	6.8	9.6	10.6		None - boring within structure footprint	None	None	None
5X02_5XY	6.9	9.4	10.4		None - boring within structure footprint	None	None	None
5X02_5XZ	6.9	9.2	10.2		None - boring within structure footprint	None	None	None
5X02_5XAA	7	9	10		None - boring within structure footprint	None	None	None
5X02_5XAB	7	8.8	9.8		None - boring within structure footprint	None	None	None
5X02_5XAC	7.1	8.6	9.6		None - boring within structure footprint	None	None	None
5X02_5XAD	7.2	8.4	9.4		None - boring within structure footprint	None	None	None
5X02_5XAE	7.2	8.2	9.2		None - boring within structure footprint	None	None	None
5X02_5XAF	7.1	8.2	9.2		None - boring within structure footprint	None	None	None
5X02_5XAG	5.7	9.5	10.5		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB;8082 [5]	Geoprobe
5X02_5XAH	5.7	9.5	10.5		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB;8082 [5]	Geoprobe
5X02_5XAI	5.7	9.5	10.5		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB;8082 [5]	Geoprobe
5X02_5XAJ	5.5	9.5	10.5		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB;8082 [5]	Geoprobe
5X02_5XAK	5.1	9.4	10.4		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB;8082 [5]	Geoprobe
5X02_5XAL	4.7	9.3	10.3		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB;8082 [5]	Geoprobe
5X02_5XAM	4.2	9.3	10.3		2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB;8082 [5]	Geoprobe
5X02_5XAN	3.8	9.2	10.2		1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB;8082 [5]	Geoprobe
5X02_5XAO	3.9	9.6	10.6		1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB;8082 [5]	Geoprobe
5X02_5XAP	4.3	10.1	11.1		None - boring in underground utility corridor	None	None	None
5X02_5XAQ	4.7	10.7	11.7		None - boring in underground utility corridor	None	None	None
5X02_5XAR	5.1	11.2	12.2		None - boring in underground utility corridor	None	None	None
5X02_5XAS	5.5	11.7	12.7		None - boring in underground utility corridor	None	None	None
5X02_5XAT	5.1	11.6	12.6		None - boring in underground utility corridor	None	None	None
5X02_5XAU	3.8	10.8	11.8		None - boring in underground utility corridor	None	None	None
5X02_5XAV	4.1	10.1	11.1		None - boring in underground utility corridor	None	None	None
5X02_5XAW	4.7	9.5	10.5		None - boring in underground utility corridor	None	None	None
5X03_5XI	3.6	7.3	8.3		None - boring within structure footprint	None	None	None
5X03_5XJ	4	7.8	8.8		None - boring in underground utility corridor	None	None	None
5X03_5XK	4.5	8.3	9.3		None - boring in underground utility corridor	None	None	None
5X03_5XL	4.9	8.8	9.8		None - boring in underground utility corridor	None	None	None
5X03_5XM	5.4	9.3	10.3		None - boring in underground utility corridor	None	None	None
5X03_5XN	5.8	9.8	10.8		None - boring in underground utility corridor	None	None	None
5X03_5XO	6.1	10.1	11.1		None - boring in underground utility corridor	None	None	None
5X03_5XP	6.2	10.2	11.2		None - boring in underground utility corridor	None	None	None
5X03_5XQ	6.4	10.4	11.4		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB;8082 [5]	Geoprobe
5X03_5XR	6.5	10.5	11.5		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 [5]	Geoprobe
5X03_5XS	6.6	10.6	11.6		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 [5]	Geoprobe
5X03_5XT	6.5	10.6	11.6		None - boring in underground utility corridor	None	None	None
5X03_5XU	6.6	10.4	11.4		None - boring within structure footprint	None	None	None
5X03_5XV	6.7	10	11		None - boring within structure footprint	None	None	None
5X03_5XW	6.8	9.7	10.7		None - boring within structure footprint	None	None	None
5X03_5XX	6.9	9.5	10.5		None - boring within structure footprint	None	None	None
5X03_5XY	6.9	9.3	10.3		None - boring within structure footprint	None	None	None
5X03_5XZ	7	9.1	10.1		None - boring within structure footprint	None	None	None
5X03_5XAA	7	8.9	9.9		None - boring within structure footprint	None	None	None
5X03_5XAB	7.1	8.7	9.7		5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB;8082 [5]	Geoprobe
5X03_5XAC	7.2	8.5	9.5		5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB;8082 [5]	Geoprobe
5X03_5XAD	7.2	8.3	9.3		5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB;8082 [5]	Geoprobe
5X03_5XAE	7.3	8.1	9.1		5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB;8082 [5]	Geoprobe

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL [2]	Bottom of LNAPL [2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location [3]	Sample Depths (feet below grade) [4]	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X03_5XAF	6.9	8.5	9.5		4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB;8082 [5]	Geoprobe
5X03_5XAG	5.7	9.7	10.7		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB;8082 [5]	Geoprobe
5X03_5XAH	5.6	9.6	10.6		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB;8082 [5]	Geoprobe
5X03_5XAI	5.6	9.6	10.6		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB;8082 [5]	Geoprobe
5X03_5XAJ	5.2	9.5	10.5		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB;8082 [5]	Geoprobe
5X03_5XAK	4.8	9.5	10.5		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB;8082 [5]	Geoprobe
5X03_5XAL	4.3	9.4	10.4		2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB;8082 [5]	Geoprobe
5X03_5XAM	4.2	9.6	10.6		2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB;8082 [5]	Geoprobe
5X03_5XAN	4.6	10.2	11.2		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 [5]	Geoprobe
5X03_5XAO	5	10.7	11.7		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB;8082 [5]	Geoprobe
5X03_5XAP	5.4	11.2	12.2		None - boring in underground utility corridor	None	None	None
5X03_5XAQ	5.8	11.8	12.8		None - boring in underground utility corridor	None	None	None
5X03_5XAR	6.1	12.3	13.3		None - boring in underground utility corridor	None	None	None
5X03_5XAS	6.5	12.8	13.8		None - boring in underground utility corridor	None	None	None
5X03_5XAT	5.3	12	13		None - boring in underground utility corridor	None	None	None
5X03_5XAU	4.1	11.2	12.2		None - boring in underground utility corridor	None	None	None
5X03_5XAV	4.6	10.5	11.5		None - boring in underground utility corridor	None	None	None
5X03_5XAW	5.2	9.9	10.9		None - boring in underground utility corridor	None	None	None
5X04_5XI	4.5	8.2	9.2		None - boring within structure footprint	None	None	None
5X04_5XJ	4.9	8.7	9.7		None - boring within structure footprint	None	None	None
5X04_5XK	5.4	9.2	10.2		None - boring in underground utility corridor	None	None	None
5X04_5XL	5.8	9.7	10.7		None - boring in underground utility corridor	None	None	None
5X04_5XM	6.3	10.2	11.2		None - boring in underground utility corridor	None	None	None
5X04_5XN	6.1	10.1	11.1		None - boring in underground utility corridor	None	None	None
5X04_5XO	6.2	10.2	11.2		None - boring in underground utility corridor	None	None	None
5X04_5XP	6.4	10.4	11.4		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB;8082 [5]	Geoprobe
5X04_5XQ	6.5	10.5	11.5		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 [5]	Geoprobe
5X04_5XR	6.7	10.7	11.7		None - boring in underground utility corridor	None	None	None
5X04_5XS	6.7	10.6	11.6		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 [5]	Geoprobe
5X04_5XT	6.5	9.9	10.9		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 [5]	Geoprobe
5X04_5XU	6.6	11	12		None - boring within structure footprint	None	None	None
5X04_5XV	6.7	10.6	11.6		None - boring within structure footprint	None	None	None
5X04_5XW	6.8	10.1	11.1		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 [5]	Geoprobe
5X04_5XX	6.9	9.7	10.7		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 [5]	Geoprobe
5X04_5XY	7	9.3	10.3		None - boring in underground utility corridor	None	None	None
5X04_5XZ	7	9.1	10.1		None - boring in underground utility corridor	None	None	None
5X04_5XAA	7.1	8.9	9.9		None - boring in underground utility corridor	None	None	None
5X04_5XAB	7.2	8.7	9.7		None - boring in underground utility corridor	None	None	None
5X04_5XAC	7.2	8.5	9.5		None - boring in underground utility corridor	None	None	None
5X04_5XAD	7.3	8.3	9.3		None - boring in underground utility corridor	None	None	None
5X04_5XAE	7.4	8.1	9.1		None - boring in underground utility corridor	None	None	None
5X04_5XAF	6.6	8.8	9.8		None - boring in underground utility corridor	None	None	None
5X04_5XAG	5.6	9.7	10.7		None - boring in underground utility corridor	None	None	None
5X04_5XAH	5.6	9.7	10.7		None - boring in underground utility corridor	None	None	None
5X04_5XAI	5.3	9.7	10.7		None - boring in underground utility corridor	None	None	None
5X04_5XAJ	4.8	9.6	10.6		None - boring in underground utility corridor	None	None	None
5X04_5XAK	4.6	9.7	10.7		None - boring in underground utility corridor	None	None	None
5X04_5XAL	4.9	10.2	11.2		None - boring in underground utility corridor	None	None	None
5X04_5XAM	5.3	10.7	11.7		None - boring in underground utility corridor	None	None	None
5X04_5XAN	5.7	11.3	12.3		None - boring in underground utility corridor	None	None	None
5X04_5XAO	6.1	11.8	12.8		None - boring in underground utility corridor	None	None	None
5X04_5XAP	6.4	12.3	13.3		None - boring in underground utility corridor	None	None	None

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL[2]	Bottom of LNAPL[2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location[3]	Sample Depths (feet below grade)[4]	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X04_5XAQ	6.8	12.9	13.9		None - boring in underground utility corridor	None	None	None
5X04_5XAR	7.2	13.4	14.4		None - boring in underground utility corridor	None	None	None
5X04_5XAS	6.7	13.2	14.2		None - boring in underground utility corridor	None	None	None
5X04_5XAT	5.5	12.4	13.4		None - boring in underground utility corridor	None	None	None
5X04_5XAU	4.5	11.6	12.6		None - boring in underground utility corridor	None	None	None
5X04_5XAV	5.1	11	12		None - boring in underground utility corridor	None	None	None
5X04_5XAW	5.6	10.4	11.4		None - boring in underground utility corridor	None	None	None
5X05_5XI	5.3	9.1	10.1		None - boring within structure footprint	None	None	None
5X05_5XJ	5.8	9.6	10.6		None - boring within structure footprint	None	None	None
5X05_5XK	6.3	10.1	11.1		None - boring in underground utility corridor	None	None	None
5X05_5XL	6.6	10.4	11.4		None - boring in underground utility corridor	None	None	None
5X05_5XM	6.3	10.2	11.2		None - boring in underground utility corridor	None	None	None
5X05_5XN	6.2	10.1	11.1		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB;8082 [5]	Geoprobe
5X05_5XO	6.4	10.4	11.4		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB;8082 [5]	Geoprobe
5X05_5XP	6.5	10.5	11.5		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 [5]	Geoprobe
5X05_5XQ	6.7	10.7	11.7		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 [5]	Geoprobe
5X05_5XR	6.8	10.8	11.8		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 [5]	Geoprobe
5X05_5XS	6.8	10.5	11.5		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 [5]	Geoprobe
5X05_5XT	6.6	9.8	10.8		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 [5]	Geoprobe
5X05_5XU	6.6	10.5	11.5		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 [5]	Geoprobe
5X05_5XV	6.7	11.2	12.2		None - boring in underground utility corridor	None	None	None
5X05_5XW	6.8	10.7	11.7		None - boring in underground utility corridor	None	None	None
5X05_5XX	6.9	10.3	11.3		None - boring in underground utility corridor	None	None	None
5X05_5XY	7	9.8	10.8		None - boring in underground utility corridor	None	None	None
5X05_5XZ	7.1	9.4	10.4		None - boring in underground utility corridor	None	None	None
5X05_5XAA	7.2	8.9	9.9		None - boring in underground utility corridor	None	None	None
5X05_5XAB	7.2	8.6	9.6		None - boring in underground utility corridor	None	None	None
5X05_5XAC	7.3	8.4	9.4		None - boring in underground utility corridor	None	None	None
5X05_5XAD	7.4	8.2	9.2		None - boring in underground utility corridor	None	None	None
5X05_5XAE	7.4	8	9		None - boring in underground utility corridor	None	None	None
5X05_5XAF	6.3	9.1	10.1		None - boring in underground utility corridor	None	None	None
5X05_5XAG	5.6	9.8	10.8		None - boring in underground utility corridor	None	None	None
5X05_5XAH	5.3	9.8	10.8		None - boring in underground utility corridor	None	None	None
5X05_5XAI	4.9	9.8	10.8		None - boring in underground utility corridor	None	None	None
5X05_5XAJ	5.2	10.2	11.2		None - boring in underground utility corridor	None	None	None
5X05_5XAK	5.6	10.8	11.8		None - boring in underground utility corridor	None	None	None
5X05_5XAL	6	11.3	12.3		None - boring in underground utility corridor	None	None	None
5X05_5XAM	6.4	11.8	12.8		None - boring in underground utility corridor	None	None	None
5X05_5XAN	6.8	12.4	13.4		None - boring in underground utility corridor	None	None	None
5X05_5XAO	7.1	12.9	13.9		None - boring in underground utility corridor	None	None	None
5X05_5XAP	7.5	13.4	14.4		None - boring in underground utility corridor	None	None	None
5X05_5XAQ	7.9	14	15		None - boring in underground utility corridor	None	None	None
5X05_5XAR	8.2	14.4	15.4		None - boring in underground utility corridor	None	None	None
5X05_5XAS	7	13.6	14.6		None - boring in underground utility corridor	None	None	None
5X05_5XAT	5.7	12.8	13.8		None - boring in underground utility corridor	None	None	None
5X05_5XAU	5	12	13		None - boring in underground utility corridor	None	None	None
5X05_5XAV	5.5	11.4	12.4		None - boring in underground utility corridor	None	None	None
5X05_5XAW	6.1	10.8	11.8		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB;8082 [5]	Geoprobe
5X06_5XI	6.2	10	11		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB;8082 [5]	Geoprobe
5X06_5XJ	6.7	10.4	11.4		None - boring in underground utility corridor	None	None	None
5X06_5XK	6.8	10.6	11.6		None - boring in underground utility corridor	None	None	None
5X06_5XL	6.5	10.4	11.4		None - boring in underground utility corridor	None	None	None

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL [2]	Bottom of LNAPL [2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location [3]	Sample Depths (feet below grade) [4]	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X06_5XM	6.3	10.2	11.2		None - boring in underground utility corridor	None	None	None
5X06_5XN	6.4	10.3	11.3		None - boring in underground utility corridor	None	None	None
5X06_5XO	6.5	10.5	11.5		None - boring in underground utility corridor	None	None	None
5X06_5XP	6.7	10.7	11.7		None - boring in underground utility corridor	None	None	None
5X06_5XQ	6.8	10.8	11.8		None - boring in underground utility corridor	None	None	None
5X06_5XR	7	11	12		None - boring in underground utility corridor	None	None	None
5X06_5XS	6.9	10.5	11.5		None - boring in underground utility corridor	None	None	None
5X06_5XT	6.6	9.7	10.7		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 [5]	Geoprobe
5X06_5XU	6.5	9.7	10.7		None - boring in underground utility corridor	None	None	None
5X06_5XV	6.7	11.2	12.2		None - boring in underground utility corridor	None	None	None
5X06_5XW	6.8	11.4	12.4		None - boring in underground utility corridor	None	None	None
5X06_5XX	6.9	10.9	11.9		None - boring in underground utility corridor	None	None	None
5X06_5XY	7	10.4	11.4		None - boring in underground utility corridor	None	None	None
5X06_5XZ	7.1	10	11		None - boring in underground utility corridor	None	None	None
5X06_5XAA	7.2	9.5	10.5		None - boring in underground utility corridor	None	None	None
5X06_5XAB	7.2	9.1	10.1		None - boring in underground utility corridor	None	None	None
5X06_5XAC	7.3	8.6	9.6		None - boring in underground utility corridor	None	None	None
5X06_5XAD	7.4	8.2	9.2		None - boring in underground utility corridor	None	None	None
5X06_5XAE	7.5	8	9		None - boring in underground utility corridor	None	None	None
5X06_5XAF	6.1	9.4	10.4		None - boring in underground utility corridor	None	None	None
5X06_5XAG	5.4	9.9	10.9		None - boring in underground utility corridor	None	None	None
5X06_5XAH	5.5	10.3	11.3		None - boring in underground utility corridor	None	None	None
5X06_5XAI	5.9	10.8	11.8		None - boring in underground utility corridor	None	None	None
5X06_5XAJ	6.3	11.3	12.3		None - boring in underground utility corridor	None	None	None
5X06_5XAK	6.7	11.9	12.9		None - boring in underground utility corridor	None	None	None
5X06_5XAL	7.1	12.4	13.4		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5	Soil	PCB;8082 [5]	Geoprobe
5X06_5XAM	7.4	13	14		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5	Soil	PCB;8082 [5]	Geoprobe
5X06_5XAN	7.8	13.5	14.5		5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16	Soil	PCB;8082 [5]	Geoprobe
5X06_5XAO	8.2	14	15		6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5	Soil	PCB;8082 [5]	Geoprobe
5X06_5XAP	8.6	14.6	15.6		6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17	Soil	PCB;8082 [5]	Geoprobe
5X06_5XAQ	9	15.1	16.1		7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5	Soil	PCB;8082 [5]	Geoprobe
5X06_5XAR	8.4	14.9	15.9		None - boring in underground utility corridor	None	None	None
5X06_5XAS	7.2	14	15		None - boring in underground utility corridor	None	None	None
5X06_5XAT	5.9	13.2	14.2		None - boring in underground utility corridor	None	None	None
5X06_5XAU	5.4	12.4	13.4		None - boring in underground utility corridor	None	None	None
5X06_5XAV	6	11.8	12.8		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB;8082 [5]	Geoprobe
5X06_5XAW	6.8	11.4	12.4		None - boring in underground utility corridor	None	None	None
5X07_5XI	7.1	10.8	11.8		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB;8082 [5]	Geoprobe
5X07_5XJ	7	10.7	11.7		None - boring in underground utility corridor	None	None	None
5X07_5XK	6.7	10.5	11.5		None - boring in underground utility corridor	None	None	None
5X07_5XL	6.5	10.3	11.3		None - boring in underground utility corridor	None	None	None
5X07_5XM	6.3	10.2	11.2		None - boring in underground utility corridor	None	None	None
5X07_5XN	6.5	10.4	11.4		None - boring in underground utility corridor	None	None	None
5X07_5XO	6.7	10.7	11.7		None - boring in underground utility corridor	None	None	None
5X07_5XP	6.9	10.9	11.9		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 [5]	Geoprobe
5X07_5XQ	7	11	12		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB;8082 [5]	Geoprobe
5X07_5XR	7.1	11.1	12.1		None - boring in underground utility corridor	None	None	None
5X07_5XS	6.9	10.4	11.4		None - boring in underground utility corridor	None	None	None
5X07_5XT	6.7	9.6	10.6		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 [5]	Geoprobe
5X07_5XU	6.5	9	10		4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB;8082 [5]	Geoprobe
5X07_5XV	6.6	10.4	11.4		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 [5]	Geoprobe
5X07_5XW	6.8	11.8	12.8		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB;8082 [5]	Geoprobe

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location (1)	Top of LNAPL(2)	Bottom of LNAPL(2)	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location(3)	Sample Depths (feet below grade)(4)	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X07_5XX	6.9	11.5	12.5		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 (5)	Geoprobe
5X07_5XY	7	11.1	12.1		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB;8082 (5)	Geoprobe
5X07_5XZ	7.1	10.6	11.6		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB;8082 (5)	Geoprobe
5X07_5XAA	7.1	10.1	11.1		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB;8082 (5)	Geoprobe
5X07_5XAB	7.2	9.7	10.7		5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB;8082 (5)	Geoprobe
5X07_5XAC	7.3	9.2	10.2		5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB;8082 (5)	Geoprobe
5X07_5XAD	7.4	8.8	9.8		5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB;8082 (5)	Geoprobe
5X07_5XAE	6.4	8.8	9.8		None - boring in underground utility corridor	None	None	None
5X07_5XAF	5.2	10.1	11.1		None - boring in underground utility corridor	None	None	None
5X07_5XAG	6.1	10.7	11.7		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB;8082 (5)	Geoprobe
5X07_5XAH	6.6	11.4	12.4		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 (5)	Geoprobe
5X07_5XAI	7	11.9	12.9		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB;8082 (5)	Geoprobe
5X07_5XAJ	7.4	12.5	13.5		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5	Soil	PCB;8082 (5)	Geoprobe
5X07_5XAK	7.7	13	14		5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16	Soil	PCB;8082 (5)	Geoprobe
5X07_5XAL	8.1	13.5	14.5		6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5	Soil	PCB;8082 (5)	Geoprobe
5X07_5XAM	8.5	14.1	15.1		6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17	Soil	PCB;8082 (5)	Geoprobe
5X07_5XAN	8.9	14.6	15.6		6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17	Soil	PCB;8082 (5)	Geoprobe
5X07_5XAO	9.3	15.1	16.1		7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5	Soil	PCB;8082 (5)	Geoprobe
5X07_5XAP	9.6	15.7	16.7		7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18	Soil	PCB;8082 (5)	Geoprobe
5X07_5XAQ	9.9	16.1	17.1		7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18	Soil	PCB;8082 (5)	Geoprobe
5X07_5XAR	8.6	15.2	16.2		None - boring in underground utility corridor	None	None	None
5X07_5XAS	7.4	14.4	15.4		None - boring in underground utility corridor	None	None	None
5X07_5XAT	6.1	13.5	14.5		None - boring in underground utility corridor	None	None	None
5X07_5XAU	5.9	12.8	13.8		None - boring in underground utility corridor	None	None	None
5X07_5XAV	6.5	12.2	13.2		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB;8082 (5)	Geoprobe
5X07_5XAW	8	12.6	13.6		6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB;8082 (5)	Geoprobe
5X08_5XI	7.2	10.8	11.8		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB;8082 (5)	Geoprobe
5X08_5XJ	6.9	10.7	11.7		None - boring in underground utility corridor	None	None	None
5X08_5XK	6.7	10.5	11.5		None - boring in underground utility corridor	None	None	None
5X08_5XL	6.5	10.3	11.3		None - boring in underground utility corridor	None	None	None
5X08_5XM	6.5	10.3	11.3		None - boring in underground utility corridor	None	None	None
5X08_5XN	6.7	10.6	11.6		None - boring in underground utility corridor	None	None	None
5X08_5XO	6.9	10.8	11.8		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 (5)	Geoprobe
5X08_5XP	7	11	12		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB;8082 (5)	Geoprobe
5X08_5XQ	7.2	11.2	12.2		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB;8082 (5)	Geoprobe
5X08_5XR	7.2	11.1	12.1		None - boring in underground utility corridor	None	None	None
5X08_5XS	7	10.3	11.3		None - boring in underground utility corridor	None	None	None
5X08_5XT	6.8	9.6	10.6		None - boring in underground utility corridor	None	None	None
5X08_5XU	6.6	8.8	9.8		4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB;8082 (5)	Geoprobe
5X08_5XV	6.6	9.6	10.6		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 (5)	Geoprobe
5X08_5XW	6.7	11.1	12.1		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 (5)	Geoprobe
5X08_5XX	6.9	12.1	13.1		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB;8082 (5)	Geoprobe
5X08_5XY	7	11.7	12.7		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB;8082 (5)	Geoprobe
5X08_5XZ	7	11.2	12.2		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB;8082 (5)	Geoprobe
5X08_5XAA	7.1	10.8	11.8		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB;8082 (5)	Geoprobe
5X08_5XAB	7.2	10.3	11.3		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB;8082 (5)	Geoprobe
5X08_5XAC	7.2	9.9	10.9		5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB;8082 (5)	Geoprobe
5X08_5XAD	6	9.5	10.5		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB;8082 (5)	Geoprobe
5X08_5XAE	4.8	10.1	11.1		None - boring in underground utility corridor	None	None	None

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL[2]	Bottom of LNAPL[2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location[3]	Sample Depths (feet below grade)[4]	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X08_5XAF	4.5	10	11		None - boring in underground utility corridor	None	None	None
5X08_5XAG	5	9.4	10.4		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB;8082 [5]	Geoprobe
5X08_5XAH	6.7	11.4	12.4		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB;8082 [5]	Geoprobe
5X08_5XAI	8	13	14		6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB;8082 [5]	Geoprobe
5X08_5XAJ	8.4	13.6	14.6		6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5	Soil	PCB; 8082 [5]	Geoprobe
5X08_5XAK	8.8	14.1	15.1		6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17	Soil	PCB; 8082 [5]	Geoprobe
5X08_5XAL	9.2	14.6	15.6		7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5	Soil	PCB; 8082 [5]	Geoprobe
5X08_5XAM	9.6	15.2	16.2		7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18	Soil	PCB; 8082 [5]	Geoprobe
5X08_5XAN	10	15.7	16.7		8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5; 18-18.5	Soil	PCB; 8082 [5]	Geoprobe
5X08_5XAO	10.3	16.2	17.2		8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5; 18-18.5	Soil	PCB; 8082 [5]	Geoprobe
5X08_5XAP	10.7	16.8	17.8		8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17; 18.5-19	Soil	PCB; 8082 [5]	Geoprobe
5X08_5XAQ	10.1	16.5	17.5		8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5; 18-18.5	Soil	PCB; 8082 [5]	Geoprobe
5X08_5XAR	8.8	15.6	16.6		6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17; 18.5-19	Soil	PCB; 8082 [5]	Geoprobe
5X08_5XAS	7.6	14.8	15.8		5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18	Soil	PCB; 8082 [5]	Geoprobe
5X08_5XAT	6.3	13.9	14.9		None - boring in underground utility corridor	None	None	None
5X08_5XAU	6.4	13.3	14.3		None - boring in underground utility corridor	None	None	None
5X08_5XAV	7.5	13.2	14.2		5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16	Soil	PCB; 8082 [5]	Geoprobe
5X08_5XAW	9.3	13.9	14.9		7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XI	7.1	10.8	11.8		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XJ	6.9	10.6	11.6		None - boring in underground utility corridor	None	None	None
5X09_5XK	6.7	10.4	11.4		None - boring in underground utility corridor	None	None	None
5X09_5XL	6.5	10.2	11.2		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XM	6.6	10.5	11.5		None - boring in underground utility corridor	None	None	None
5X09_5XN	6.8	10.7	11.7		None - boring in underground utility corridor	None	None	None
5X09_5XO	7	11	12		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XP	7.2	11.2	12.2		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XQ	7.3	11.3	12.3		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XR	7.3	11	12		None - boring in underground utility corridor	None	None	None
5X09_5XS	7.1	10.3	11.3		None - boring in underground utility corridor	None	None	None
5X09_5XT	6.9	9.5	10.5		None - boring in underground utility corridor	None	None	None
5X09_5XU	6.6	8.7	9.7		4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XV	6.6	8.9	9.9		4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XW	6.7	10.3	11.3		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XX	6.8	11.8	12.8		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XY	6.9	12.3	13.3		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XZ	7	11.8	12.8		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XAA	7.1	11.4	12.4		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XAB	7	10.9	11.9		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XAC	5.7	10.6	11.6		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XAD	4.4	10.3	11.3		2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XAE	3.2	11.2	12.2		None - boring in underground utility corridor	None	None	None
5X09_5XAF	4.1	9.7	10.7		None - boring in underground utility corridor	None	None	None
5X09_5XAG	4.6	8.9	9.9		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XAH	5.3	9.7	10.7		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XAI	7.2	12	13		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XAJ	9.1	14.2	15.2		7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XAK	9.9	15.2	16.2		7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XAL	10.3	15.8	16.8		8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5; 18-18.5	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XAM	10.6	16.3	17.3		8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17; 18.5-19	Soil	PCB; 8082 [5]	Geoprobe

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL[2]	Bottom of LNAPL[2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location[3]	Sample Depths (feet below grade)[4]	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X09_5XAN	11	16.8	17.8		9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5; 19-19.5	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XAO	11.4	17.4	18.4		9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5; 19-19.5	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XAP	11.6	17.7	18.7		9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18; 19.5-20	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XAQ	10.3	16.9	17.9		8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5; 18-18.5	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XAR	9.1	16	17		7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XAS	7.8	15.2	16.2		5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XAT	6.6	14.3	15.3		None - boring in underground utility corridor	None	None	None
5X09_5XAU	7	13.8	14.8		None - boring in underground utility corridor	None	None	None
5X09_5XAV	8.7	14.4	15.4		6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17	Soil	PCB; 8082 [5]	Geoprobe
5X09_5XAW	10.5	15.1	16.1		8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XI	7.1	10.8	11.8		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XJ	6.9	10.6	11.6		None - boring in underground utility corridor	None	None	None
5X10_5XK	6.7	10.4	11.4		None - boring in underground utility corridor	None	None	None
5X10_5XL	6.6	10.3	11.3		None - boring in underground utility corridor	None	None	None
5X10_5XM	6.8	10.6	11.6		None - boring in underground utility corridor	None	None	None
5X10_5XN	7	10.9	11.9		None - boring in underground utility corridor	None	None	None
5X10_5XO	7.2	11.1	12.1		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XP	7.3	11.3	12.3		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XQ	7.5	11.5	12.5		5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XR	7.4	10.9	11.9		None - boring in underground utility corridor	None	None	None
5X10_5XS	7.1	10.2	11.2		None - boring in underground utility corridor	None	None	None
5X10_5XT	6.9	9.4	10.4		None - boring in underground utility corridor	None	None	None
5X10_5XU	6.7	8.7	9.7		4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XV	6.5	8.1	9.1		4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XW	6.7	9.5	10.5		4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XX	6.8	11	12		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XY	6.9	12.5	13.5		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XZ	7	12.4	13.4		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XAA	6.6	12	13		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XAB	5.3	11.7	12.7		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XAC	4	11.4	12.4		2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XAD	2.7	11.3	12.3		.5-1; 2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XAE	2.7	10.9	11.9		None - boring in underground utility corridor	None	None	None
5X10_5XAF	3.6	9.3	10.3		1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XAG	4.2	8.4	9.4		2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XAH	4.3	8.6	9.6		2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XAI	5.7	10.2	11.2		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XAJ	7.7	12.5	13.5		5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XAK	9.6	14.8	15.8		7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XAL	11.3	16.8	17.8		9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5; 19-19.5	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XAM	11.7	17.4	18.4		9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18; 19.5-20	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XAN	12.1	17.9	18.9		10-10.5; 12-12.5; 14-14.5; 16-16.5; 18-18.5; 20-20.5	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XAO	12.5	18.5	19.5		10.5-11; 12.5-13; 14.5-15; 16.5-17; 18.5-19; 20.5-21	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XAP	11.8	18.1	19.1		9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18; 19.5-20	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XAQ	10.5	17.2	18.2		8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17; 18.5-19	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XAR	9.3	16.4	17.4		7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5; 19-19.5	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XAS	8	15.5	16.5		6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5; 18-18.5	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XAT	6.8	14.7	15.7		None - boring in underground utility corridor	None	None	None
5X10_5XAU	8.2	15	16		None - boring in underground utility corridor	None	None	None

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL[2]	Bottom of LNAPL[2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location[3]	Sample Depths (feet below grade)[4]	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X10_5XAV	10	15.7	16.7		8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5; 18-18.5	Soil	PCB; 8082 [5]	Geoprobe
5X10_5XAW	11.8	16.3	17.3		9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18	Soil	PCB; 8082 [5]	Geoprobe
5X11_5XI	7.1	10.7	11.7		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X11_5XJ	6.9	10.5	11.5		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
5X11_5XK	6.6	10.3	11.3		None - boring in underground utility corridor	None	None	None
5X11_5XL	6.7	10.5	11.5		None - boring in underground utility corridor	None	None	None
5X11_5XM	6.9	10.8	11.8		None - boring in underground utility corridor	None	None	None
5X11_5XN	7.1	11	12		None - boring in underground utility corridor	None	None	None
5X11_5XO	7.3	11.3	12.3		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X11_5XP	7.5	11.5	12.5		5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X11_5XQ	7.6	11.6	12.6		None - boring in underground utility corridor	None	None	None
5X11_5XR	7.4	10.9	11.9		None - boring in underground utility corridor	None	None	None
5X11_5XS	7.2	10.1	11.1		None - boring in underground utility corridor	None	None	None
5X11_5XT	7	9.4	10.4		None - boring in underground utility corridor	None	None	None
5X11_5XU	6.8	8.6	9.6		4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [5]	Geoprobe
5X11_5XV	6.6	7.8	8.8		None - boring in underground utility corridor	None	None	None
5X11_5XW	6.6	8.8	9.8		None - boring in underground utility corridor	None	None	None
5X11_5XX	6.7	10.2	11.2		None - boring in underground utility corridor	None	None	None
5X11_5XY	6.9	11.7	12.7		None - boring in underground utility corridor	None	None	None
5X11_5XZ	6.5	12.8	13.8		None - boring in underground utility corridor	None	None	None
5X11_5XAA	4.9	12.8	13.8		None - boring in underground utility corridor	None	None	None
5X11_5XAB	3.6	12.5	13.5		None - boring in underground utility corridor	None	None	None
5X11_5XAC	2.3	12.2	13.2		0-.5; 2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X11_5XAD	1.3	12.2	13.2		0-.5; 1-1.5; 3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5	Soil	PCB; 8082 [5]	Geoprobe
5X11_5XAE	2.2	10.6	11.6		None - boring in underground utility corridor	None	None	None
5X11_5XAF	3.1	9	10		1-1.5; 3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
5X11_5XAG	3.8	7.9	8.9		1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 [5]	Geoprobe
5X11_5XAH	3.9	8.1	9.1		1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 [5]	Geoprobe
5X11_5XAI	4.3	8.5	9.5		2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [5]	Geoprobe
5X11_5XAJ	6.2	10.8	11.8		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
5X11_5XAK	8.1	13	14		6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X11_5XAL	10.1	15.3	16.3		8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5; 18-18.5	Soil	PCB; 8082 [5]	Geoprobe
5X11_5XAM	12	17.6	18.6		None - boring in underground utility corridor	None	None	None
5X11_5XAN	13.2	19	20		None - boring in underground utility corridor	None	None	None
5X11_5XAO	13.2	19.3	20.3		11-11.5; 13-13.5; 15-15.5; 17-17.5; 19-19.5; 21-21.5	Soil	PCB; 8082 [5]	Geoprobe
5X11_5XAP	12	18.5	19.5		10-10.5; 12-12.5; 14-14.5; 16-16.5; 18-18.5; 20-20.5	Soil	PCB; 8082 [5]	Geoprobe
5X11_5XAQ	10.7	17.6	18.6		8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17; 18.5-19; 20.5-21	Soil	PCB; 8082 [5]	Geoprobe
5X11_5XAR	9	16	17		7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5	Soil	PCB; 8082 [5]	Geoprobe
5X11_5XAS	7	13.9	14.9		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5	Soil	PCB; 8082 [5]	Geoprobe
5X11_5XAT	7	15.2	16.2		None - boring in underground utility corridor	None	None	None
5X11_5XAU	8.6	15.8	16.8		None - boring in underground utility corridor	None	None	None
5X11_5XAV	10.3	16.4	17.4		8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5; 18-18.5	Soil	PCB; 8082 [5]	Geoprobe
5X11_5XAW	11.9	17	18		9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18; 19.5-20	Soil	PCB; 8082 [5]	Geoprobe
5X12_5XI	7.1	10.7	11.7		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X12_5XJ	6.8	10.5	11.5		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
5X12_5XK	6.7	10.4	11.4		None - boring in underground utility corridor	None	None	None
5X12_5XL	6.9	10.6	11.6		None - boring in underground utility corridor	None	None	None
5X12_5XM	7.1	10.9	11.9		None - boring in underground utility corridor	None	None	None
5X12_5XN	7.3	11.2	12.2		None - boring in underground utility corridor	None	None	None
5X12_5XO	7.5	11.4	12.4		5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL [2]	Bottom of LNAPL [2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location [3]	Sample Depths (feet below grade) [4]	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X12_5XP	7.7	11.7	12.7		5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X12_5XQ	7.7	11.6	12.6		None - boring in underground utility corridor	None	None	None
5X12_5XR	7.5	10.8	11.8		None - boring in underground utility corridor	None	None	None
5X12_5XS	7.3	10.1	11.1		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X12_5XT	7.1	9.3	10.3		5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
5X12_5XU	6.8	8.5	9.5		4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [5]	Geoprobe
5X12_5XV	6.6	7.8	8.8		4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [5]	Geoprobe
5X12_5XW	6.6	8	9		None - boring in underground utility corridor	None	None	None
5X12_5XX	6.7	9.4	10.4		None - boring in underground utility corridor	None	None	None
5X12_5XY	7.1	10.8	11.8		None - boring in underground utility corridor	None	None	None
5X12_5XZ	6.3	11.7	12.7		None - boring in underground utility corridor	None	None	None
5X12_5XAA	4.3	12.2	13.2		None - boring in underground utility corridor	None	None	None
5X12_5XAB	2.4	12.6	13.6		None - boring in underground utility corridor	None	None	None
5X12_5XAC	0.6	12.9	13.9		0-.5; .5-1; 2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X12_5XAD	0.8	11.9	12.9		0-.5; .5-1; 2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X12_5XAE	1.7	10.2	11.2		None - boring in underground utility corridor	None	None	None
5X12_5XAF	2.6	8.6	9.6		.5-1; 2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [5]	Geoprobe
5X12_5XAG	3.4	7.4	8.4		1-1.5; 3-3.5; 5-5.5; 7-7.5; 9-9.5	Soil	PCB; 8082 [5]	Geoprobe
5X12_5XAH	3.5	7.6	8.6		None - boring in underground utility corridor	None	None	None
5X12_5XAI	3.7	7.7	8.7		None - boring in underground utility corridor	None	None	None
5X12_5XAJ	4.8	9	10		None - boring in underground utility corridor	None	None	None
5X12_5XAK	6.7	11.3	12.3		None - boring in underground utility corridor	None	None	None
5X12_5XAL	8.6	13.6	14.6		None - boring in underground utility corridor	None	None	None
5X12_5XAM	10.6	16.1	17.1		None - boring in underground utility corridor	None	None	None
5X12_5XAN	12.5	18.8	19.8		None - boring in underground utility corridor	None	None	None
5X12_5XAO	10.8	15.5	16.5		None - boring in underground utility corridor	None	None	None
5X12_5XAP	7.9	11.8	12.8		5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X12_5XAQ	6	10	11		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
5X12_5XAR	6.1	11.7	12.7		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X12_5XAS	6.3	13.7	14.7		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5	Soil	PCB; 8082 [5]	Geoprobe
5X12_5XAT	6.6	15.6	16.6		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17; 18.5-19	Soil	PCB; 8082 [5]	Geoprobe
5X12_5XAU	8.2	16.3	17.3		None - boring in underground utility corridor	None	None	None
5X12_5XAV	9.9	16.9	17.9		None - boring in underground utility corridor	None	None	None
5X12_5XAW	11.5	17.5	18.5		9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18; 19.5-20	Soil	PCB; 8082 [5]	Geoprobe
5X13_5XI	7	10.6	11.6		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X13_5XJ	6.8	10.4	11.4		None - boring in underground utility corridor	None	None	None
5X13_5XK	6.9	10.5	11.5		None - boring in underground utility corridor	None	None	None
5X13_5XL	7	10.8	11.8		None - boring in underground utility corridor	None	None	None
5X13_5XM	7.2	11	12		None - boring in underground utility corridor	None	None	None
5X13_5XN	7.4	11.3	12.3		None - boring in underground utility corridor	None	None	None
5X13_5XO	7.6	11.6	12.6		None - boring in underground utility corridor	None	None	None
5X13_5XP	7.8	11.8	12.8		None - boring in underground utility corridor	None	None	None
5X13_5XQ	7.8	11.5	12.5		None - boring in underground utility corridor	None	None	None
5X13_5XR	7.6	10.7	11.7		5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X13_5XS	7.3	10	11		5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
5X13_5XT	7.1	9.2	10.2		5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
5X13_5XU	6.9	8.5	9.5		4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [5]	Geoprobe
5X13_5XV	6.7	7.7	8.7		4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [5]	Geoprobe
5X13_5XW	6.5	7.2	8.2		4.5-5; 6.5-7; 8.5-9	Soil	PCB; 8082 [5]	Geoprobe
5X13_5XX	6.9	8.5	9.5		4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [5]	Geoprobe
5X13_5XY	7.3	9.9	10.9		5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe

Table 1B

Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid

Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL[2]	Bottom of LNAPL[2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location[3]	Sample Depths (feet below grade)[4]	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X13_5XZ	6.1	10.6	11.6		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
5X13_5XAA	4.3	11.3	12.3		2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X13_5XAB	2.5	12.1	13.1		.5-1; 2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X13_5XAC	0.8	12.8	13.8		0-.5; .5-1; 2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X13_5XAD	0.7	12.3	13.3		0-.5; .5-1; 2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X13_5XAE	1.5	10.4	11.4		0-.5; 1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X13_5XAF	2.3	8.6	9.6		0-.5; 2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [5]	Geoprobe
5X13_5XAG	3	7.2	8.2		1-1.5; 3-3.5; 5-5.5; 7-7.5; 9-9.5	Soil	PCB; 8082 [5]	Geoprobe
5X13_5XAH	3.2	7.4	8.4		None - boring in underground utility corridor	None	None	None
5X13_5XAI	3.4	7.6	8.6		None - boring in underground utility corridor	None	None	None
5X13_5XAJ	3.7	8.3	9.3		None - boring in underground utility corridor	None	None	None
5X13_5XAK	5.3	10.8	11.8		None - boring in underground utility corridor	None	None	None
5X13_5XAL	7.2	13.6	14.6		None - boring in underground utility corridor	None	None	None
5X13_5XAM	9.2	16.4	17.4		None - boring in underground utility corridor	None	None	None
5X13_5XAN	11.1	19.2	20.2		None - boring in underground utility corridor	None	None	None
5X13_5XAO	10	16.8	17.8		None - boring in underground utility corridor	None	None	None
5X13_5XAP	5.9	8.6	9.6		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X13_5XAQ	5.6	10.1	11.1		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X13_5XAR	5.8	12.1	13.1		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X13_5XAS	6	14.1	15.1		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5	Soil	PCB; 8082 [5]	Geoprobe
5X13_5XAT	6.2	16	17		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5; 18-18.5	Soil	PCB; 8082 [5]	Geoprobe
5X13_5XAU	7.8	16.7	17.7		None - boring in underground utility corridor	None	None	None
5X13_5XAV	9.5	17.3	18.3		None - boring in underground utility corridor	None	None	None
5X13_5XAW	11.1	17.9	18.9		9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5; 19-19.5	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XI	7	10.6	11.6		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XJ	6.8	10.4	11.4		None - boring in underground utility corridor	None	None	None
5X14_5XK	7	10.7	11.7		None - boring in underground utility corridor	None	None	None
5X14_5XL	7.2	10.9	11.9		None - boring in underground utility corridor	None	None	None
5X14_5XM	7.4	11.2	12.2		None - boring in underground utility corridor	None	None	None
5X14_5XN	7.6	11.4	12.4		None - boring in underground utility corridor	None	None	None
5X14_5XO	7.8	11.7	12.7		None - boring in underground utility corridor	None	None	None
5X14_5XP	7.9	11.9	12.9		None - boring in underground utility corridor	None	None	None
5X14_5XQ	7.7	11.5	12.5		None - boring in underground utility corridor	None	None	None
5X14_5XR	7.4	10.8	11.8		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XS	7.2	10.1	11.1		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XT	6.9	9.4	10.4		4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XU	6.6	8.7	9.7		4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XV	6.3	7.9	8.9		4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XW	6.4	7.6	8.6		4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XX	6.7	8.3	9.3		4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XY	7.1	9.6	10.6		5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XZ	6.3	10.6	11.6		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XAA	4.5	11.3	12.3		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XAB	2.7	12.1	13.1		.5-1; 2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XAC	1.6	12.5	13.5		0-.5; 1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XAD	1.1	12.7	13.7		0-.5; 1-1.5; 3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XAE	1.7	11.2	12.2		0-.5; 1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XAF	2.5	9.4	10.4		.5-1; 2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XAG	3.1	8.1	9.1		1-1.5; 3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XAH	3.3	8.3	9.3		1-1.5; 3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL[2]	Bottom of LNAPL[2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location[3]	Sample Depths (feet below grade)[4]	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X14_5XAI	3.5	8.6	9.6		1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XAJ	3.9	10.1	11.1		1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XAK	4.3	11.6	12.6		2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XAL	5.8	14.1	15.1		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XAM	7.8	16.8	17.8		5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18; 19.5-20	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XAN	9.7	19.6	20.6		None - boring in underground utility corridor	None	None	None
5X14_5XAO	9.4	18.5	19.5		None - boring in underground utility corridor	None	None	None
5X14_5XAP	7.5	10.6	11.6		5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XAQ	5.8	10.9	11.9		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XAR	5.5	12.5	13.5		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XAS	5.7	14.4	15.4		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XAT	5.9	16.4	17.4		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18	Soil	PCB; 8082 [5]	Geoprobe
5X14_5XAU	7.4	17.1	18.1		None - boring in underground utility corridor	None	None	None
5X14_5XAV	9	17.7	18.7		None - boring in underground utility corridor	None	None	None
5X14_5XAW	9.2	17.8	18.8		7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5; 19-19.5	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XI	7	10.5	11.5		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XJ	7	10.6	11.6		None - boring in underground utility corridor	None	None	None
5X15_5XK	7.2	10.8	11.8		None - boring in underground utility corridor	None	None	None
5X15_5XL	7.4	11.1	12.1		None - boring in underground utility corridor	None	None	None
5X15_5XM	7.5	11.3	12.3		None - boring in underground utility corridor	None	None	None
5X15_5XN	7.5	11.5	12.5		None - boring in underground utility corridor	None	None	None
5X15_5XO	7.5	11.7	12.7		None - boring in underground utility corridor	None	None	None
5X15_5XP	7.4	11.9	12.9		None - boring in underground utility corridor	None	None	None
5X15_5XQ	7.2	11.8	12.8		None - boring in underground utility corridor	None	None	None
5X15_5XR	7	11.1	12.1		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XS	6.7	10.4	11.4		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XT	6.4	9.7	10.7		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XU	6.2	8.9	9.9		4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XV	5.9	8.3	9.3		3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XW	6.2	8.3	9.3		4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XX	6.4	8.4	9.4		4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XY	6.8	9.5	10.5		4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XZ	6.6	10.6	11.6		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XAA	4.8	11.3	12.3		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XAB	3	12.1	13.1		1-1.5; 3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XAC	2.5	12.3	13.3		.5-1; 2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XAD	1.9	12.4	13.4		0-.5; 1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XAE	1.9	12	13		0-.5; 1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XAF	2.7	10.2	11.2		.5-1; 2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XAG	3.3	9	10		1-1.5; 3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XAH	3.4	9.3	10.3		1-1.5; 3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XAI	3.7	10.2	11.2		1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XAJ	4.2	11.8	12.8		2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XAK	4.6	13.4	14.4		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XAL	5	14.9	15.9		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XAM	6.4	17.3	18.3		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5; 18-18.5; 20-20.5	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XAN	8.4	20.1	21.1		None - boring in underground utility corridor	None	None	None
5X15_5XAO	8.8	20.2	21.2		None - boring in underground utility corridor	None	None	None
5X15_5XAP	9	12.6	13.6		None - boring in underground utility corridor	None	None	None

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL [2]	Bottom of LNAPL [2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location [3]	Sample Depths (feet below grade) [4]	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X15_5XAQ	7.4	12.9	13.9		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XAR	5.7	13.3	14.3		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XAS	5.4	14.8	15.8		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XAT	5.6	16.8	17.8		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18; 19.5-20	Soil	PCB; 8082 [5]	Geoprobe
5X15_5XAU	7	17.6	18.6		None - boring in underground utility corridor	None	None	None
5X15_5XAV	7.8	17.9	18.9		None - boring in underground utility corridor	None	None	None
5X15_5XAW	N/A	N/A	N/A	5X14_5XAW	7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5; 19-19.5	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XI	7	10.5	11.5		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XJ	7.1	10.7	11.7		None - boring in underground utility corridor	None	None	None
5X16_5XK	7.2	10.9	11.9		None - boring in underground utility corridor	None	None	None
5X16_5XL	7.1	11.1	12.1		None - boring in underground utility corridor	None	None	None
5X16_5XM	7.1	11.3	12.3		None - boring in underground utility corridor	None	None	None
5X16_5XN	7	11.5	12.5		None - boring in underground utility corridor	None	None	None
5X16_5XO	6.9	11.6	12.6		None - boring in underground utility corridor	None	None	None
5X16_5XP	6.8	11.8	12.8		None - boring in underground utility corridor	None	None	None
5X16_5XQ	6.8	12	13		None - boring in underground utility corridor	None	None	None
5X16_5XR	6.5	11.4	12.4		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XS	6.2	10.7	11.7		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XT	6	10	11		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XU	5.7	9.2	10.2		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XV	5.7	8.9	9.9		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XW	6	9	10		4-4.5; 6-6.5; 8-8.5; 10-10.5	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XX	6.3	9.1	10.1		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XY	6.5	9.4	10.4		4.5-5; 6.5-7; 8.5-9; 10.5-11	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XZ	6.8	10.6	11.6		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XAA	5	11.3	12.3		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XAB	3.8	11.8	12.8		1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XAC	3.3	12	13		1-1.5; 3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XAD	2.8	12.2	13.2		.5-1; 2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XAE	2.3	12.3	13.3		0-.5; 2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XAF	2.8	10.9	11.9		.5-1; 2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XAG	3.4	10	11		1-1.5; 3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XAH	3.6	10.4	11.4		1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XAI	4	12	13		2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XAJ	4.4	13.6	14.6		2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XAK	4.9	15.1	16.1		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XAL	5.3	16.7	17.7		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5; 19-19.5	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XAM	5.7	18.2	19.2		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18; 19.5-20	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XAN	7	20.5	21.5		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5; 19-19.5; 21-21.5; 23-23.5	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XAO	8.1	21.8	22.8		None - boring in underground utility corridor	None	None	None
5X16_5XAP	10.6	14.6	15.6		None - boring in underground utility corridor	None	None	None
5X16_5XAQ	9.1	14.8	15.8		7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XAR	7.3	15.2	16.2		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XAS	5.6	15.6	16.6		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XAT	5.3	17.1	18.1		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5; 19-19.5	Soil	PCB; 8082 [5]	Geoprobe
5X16_5XAU	6.4	18	19		None - boring in underground utility corridor	None	None	None
5X16_5XAV	N/A	N/A	N/A		None - boring in underground utility corridor	None	None	None
5X16_5XAW	N/A	N/A	N/A	5X16_5XAU	None - boring in underground utility corridor	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XI	6.9	10.5	11.5		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL[2]	Bottom of LNAPL[2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location[3]	Sample Depths (feet below grade)[4]	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X17_5XJ	6.8	10.7	11.7		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XK	6.7	10.9	11.9		None - boring in underground utility corridor	None	None	None
5X17_5XL	6.6	11	12		None - boring in underground utility corridor	None	None	None
5X17_5XM	6.5	11.2	12.2		None - boring in underground utility corridor	None	None	None
5X17_5XN	6.5	11.4	12.4		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XO	6.4	11.6	12.6		None - boring in underground utility corridor	None	None	None
5X17_5XP	6.3	11.7	12.7		None - boring in underground utility corridor	None	None	None
5X17_5XQ	6.2	11.9	12.9		None - boring in underground utility corridor	None	None	None
5X17_5XR	6.1	11.7	12.7		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XS	5.8	11	12		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XT	5.5	10.3	11.3		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XU	5.3	9.6	10.6		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XV	5.5	9.6	10.6		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XW	5.8	9.7	10.7		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XX	6.1	9.8	10.8		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XY	6.3	9.9	10.9		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XZ	6.7	10.5	11.5		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XAA	5.3	11.4	12.4		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XAB	4.6	11.6	12.6		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XAC	4.1	11.8	12.8		2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XAD	3.6	11.9	12.9		1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XAE	3.1	12.1	13.1		1-1.5; 3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XAF	3	11.7	12.7		1-1.5; 3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XAG	3.5	10.9	11.9		1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XAH	3.8	12.2	13.2		1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XAI	4.3	13.7	14.7		2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XAJ	4.7	15.3	16.3		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XAK	5.1	16.9	17.9		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5; 19-19.5	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XAL	5.6	18.4	19.4		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18; 19.5-20	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XAM	6	20	21		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5; 18-18.5; 20-20.5; 22-22.5	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XAN	6.4	21.6	22.6		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5; 18-18.5; 20-20.5; 22-22.5; 24-24.5	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XAO	7.3	23.3	24.3		None - boring in underground utility corridor	None	None	None
5X17_5XAP	11.9	16.9	17.9		None - boring in underground utility corridor	None	None	None
5X17_5XAQ	10.7	16.8	17.8		8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17; 18.5-19	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XAR	9	17.2	18.2		7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5; 19-19.5	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XAS	7.2	17.6	18.6		5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5; 19-19.5	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XAT	5.4	17.9	18.9		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5; 19-19.5	Soil	PCB; 8082 [5]	Geoprobe
5X17_5XAU	N/A	N/A	N/A		None - boring in underground utility corridor	None	None	None
5X17_5XAV	N/A	N/A	N/A		None - boring in underground utility corridor	None	None	None
5X17_5XAW	N/A	N/A	N/A	5X17_5XAU	None - boring in underground utility corridor	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XI	6.8	10.4	11.4		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XJ	6.5	10.6	11.6		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XK	6.3	10.8	11.8		None - boring in underground utility corridor	None	None	None
5X18_5XL	6.1	11	12		None - boring in underground utility corridor	None	None	None
5X18_5XM	6	11.1	12.1		None - boring in underground utility corridor	None	None	None
5X18_5XN	5.9	11.3	12.3		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XO	5.8	11.5	12.5		None - boring in underground utility corridor	None	None	None
5X18_5XP	5.8	11.7	12.7		None - boring in underground utility corridor	None	None	None
5X18_5XQ	5.7	11.8	12.8		None - boring in underground utility corridor	None	None	None

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL[2]	Bottom of LNAPL[2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location[3]	Sample Depths (feet below grade)[4]	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X18_5XR	5.6	12	13		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XS	5.3	11.3	12.3		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XT	5.1	10.6	11.6		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XU	5	10.2	11.2		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XV	5.3	10.3	11.3		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XW	5.6	10.4	11.4		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XX	5.9	10.5	11.5		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XY	6.1	10.6	11.6		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XZ	6.4	10.7	11.7		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XAA	6	11.2	12.2		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XAB	5.5	11.3	12.3		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XAC	4.9	11.5	12.5		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XAD	4.4	11.7	12.7		2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XAE	3.9	11.8	12.8		1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XAF	3.4	12	13		1-1.5; 3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XAG	3.7	12.3	13.3		1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XAH	4.1	13.9	14.9		2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XAI	4.5	15.5	16.5		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XAJ	4.9	16.9	17.9		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17; 18.5-19	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XAK	5.4	18.3	19.3		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5; 19-19.5; 21-21.5	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XAL	5.8	19.6	20.6		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18; 19.5-20; 21.5-22	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XAM	6.2	20.9	21.9		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5; 18-18.5; 20-20.5; 22-22.5	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XAN	6.6	22.3	23.3		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17; 18.5-19; 20.5-21; 22.5-23; 24.5-25	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XAO	7	23.6	24.6		None - boring in underground utility corridor	None	None	None
5X18_5XAP	12.6	18.7	19.7		None - boring in underground utility corridor	None	None	None
5X18_5XAQ	11.7	17.9	18.9		None - boring in underground utility corridor	None	None	None
5X18_5XAR	9.7	17.8	18.8		7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18; 19.5-20	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XAS	7.6	17.7	18.7		5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18; 19.5-20	Soil	PCB; 8082 [5]	Geoprobe
5X18_5XAT	5.5	17.6	18.6		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18; 19.5-20	Soil	PCB;8082 [5]	Geoprobe
5X18_5XAU	N/A	N/A	N/A		None - boring in underground utility corridor	None	None	None
5X18_5XAV	N/A	N/A	N/A		None - boring in underground utility corridor	None	None	None
5X18_5XAW	N/A	N/A	N/A	5X18_5XAT	3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18; 19.5-20	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XI	6.6	10.3	11.3		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XJ	6.4	10.5	11.5		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XK	6.1	10.7	11.7		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XL	5.9	10.9	11.9		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XM	5.7	11.1	12.1		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XN	5.5	11.2	12.2		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XO	5.3	11.4	12.4		None - boring in underground utility corridor	None	None	None
5X19_5XP	5.2	11.6	12.6		None - boring in underground utility corridor	None	None	None
5X19_5XQ	5.1	11.8	12.8		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XR	5.1	11.9	12.9		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XS	4.9	11.6	12.6		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XT	4.6	10.9	11.9		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XU	4.9	10.9	11.9		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XV	5.1	11	12		None - boring in underground utility corridor	None	None	None
5X19_5XW	5.4	11.1	12.1		None - boring in underground utility corridor	None	None	None
5X19_5XX	5.7	11.2	12.2		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XY	6	11.2	12.2		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL[2]	Bottom of LNAPL[2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location[3]	Sample Depths (feet below grade)[4]	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X19_5XZ	6.3	11.1	12.1		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XAA	6.2	11.1	12.1		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XAB	5.7	11.3	12.3		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XAC	5.2	11.5	12.5		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XAD	4.7	11.6	12.6		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XAE	4.2	11.8	12.8		2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XAF	3.7	12	13		1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XAG	3.7	12.4	13.4		1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XAH	4.1	13.7	14.7		2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XAI	4.5	15	16		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XAJ	4.9	16.3	17.3		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17; 18.5-19	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XAK	5.3	17.6	18.6		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5; 19-19.5	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XAL	5.7	18.9	19.9		None - boring in underground utility corridor	None	None	None
5X19_5XAM	6.1	20.3	21.3		None - boring in underground utility corridor	None	None	None
5X19_5XAN	6.5	21.6	22.6		None - boring in underground utility corridor	None	None	None
5X19_5XAO	6.9	22.9	23.9		None - boring in underground utility corridor	None	None	None
5X19_5XAP	12.1	18.6	19.6		None - boring in underground utility corridor	None	None	None
5X19_5XAQ	11.7	17.5	18.5		None - boring in underground utility corridor	None	None	None
5X19_5XAR	9.7	17.4	18.4		7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18; 19.5-20	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XAS	7.6	17.3	18.3		5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18; 19.5-20	Soil	PCB; 8082 [5]	Geoprobe
5X19_5XAT	N/A	N/A	N/A	5X19_5XAS	5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18; 19.5-20	Soil	PCB; 8082 [5]	Geoprobe
5X20_5XI	6.4	10.3	11.3		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
5X20_5XJ	6.2	10.4	11.4		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
5X20_5XK	6	10.6	11.6		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
5X20_5XL	5.8	10.8	11.8		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X20_5XM	5.5	11	12		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X20_5XN	5.3	11.1	12.1		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X20_5XO	5.1	11.3	12.3		None - boring in underground utility corridor	None	None	None
5X20_5XP	4.8	11.5	12.5		None - boring in underground utility corridor	None	None	None
5X20_5XQ	4.6	11.7	12.7		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X20_5XR	4.5	11.9	12.9		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X20_5XS	4.4	11.9	12.9		None - boring in underground utility corridor	None	None	None
5X20_5XT	4.4	11.5	12.5		None - boring in underground utility corridor	None	None	None
5X20_5XU	4.7	11.6	12.6		None - boring in underground utility corridor	None	None	None
5X20_5XV	5	11.6	12.6		None - boring in underground utility corridor	None	None	None
5X20_5XW	5.3	11.5	12.5		None - boring in underground utility corridor	None	None	None
5X20_5XX	5.7	11.4	12.4		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X20_5XY	6	11.3	12.3		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X20_5XZ	6.3	11.1	12.1		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X20_5XAA	6.1	11.2	12.2		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X20_5XAB	5.6	11.4	12.4		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X20_5XAC	5.1	11.5	12.5		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X20_5XAD	4.6	11.7	12.7		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X20_5XAE	4.1	11.9	12.9		2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X20_5XAF	3.7	12	13		1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X20_5XAG	3.8	12	13		1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X20_5XAH	4.1	13	14		2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X20_5XAI	4.5	14.3	15.3		None - boring in underground utility corridor	None	None	None
5X20_5XAJ	4.9	15.6	16.6		None - boring in underground utility corridor	None	None	None

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL[2]	Bottom of LNAPL[2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location[3]	Sample Depths (feet below grade)[4]	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X20_5XAK	5.3	16.9	17.9		None - boring in underground utility corridor	None	None	None
5X20_5XAL	5.7	18.3	19.3		None - boring in underground utility corridor	None	None	None
5X20_5XAM	6.1	19.6	20.6		None - boring in underground utility corridor	None	None	None
5X20_5XAN	6.5	20.9	21.9		None - boring in underground utility corridor	None	None	None
5X20_5XAO	6.9	22.2	23.2		None - boring in underground utility corridor	None	None	None
5X20_5XAP	11.6	18.5	19.5		None - boring in underground utility corridor	None	None	None
5X20_5XAQ	11.7	17.1	18.1		None - boring in underground utility corridor	None	None	None
5X20_5XAR	9.7	17	18		9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18; 19.5-20	Soil	PCB; 8082 [5]	Geoprobe
5X20_5XAS	7.6	16.9	17.9		7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18; 19.5-20	Soil	PCB; 8082 [5]	Geoprobe
5X20_5XAT	N/A	N/A	N/A	5X20_5XAS	5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18; 19.5-20	Soil	PCB; 8082 [5]	Geoprobe
5X21_5XI	6.3	10.2	11.2		5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18; 19.5-20	Soil	PCB; 8082 [5]	Geoprobe
5X21_5XJ	6.1	10.3	11.3		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
5X21_5XK	5.8	10.5	11.5		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
5X21_5XL	5.6	10.7	11.7		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X21_5XM	5.4	10.9	11.9		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X21_5XN	5.1	11.1	12.1		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X21_5XO	4.9	11.2	12.2		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X21_5XP	4.7	11.4	12.4		None - boring in underground utility corridor	None	None	None
5X21_5XQ	4.5	11.6	12.6		None - boring in underground utility corridor	None	None	None
5X21_5XR	4.2	11.8	12.8		None - boring in underground utility corridor	None	None	None
5X21_5XS	4	11.9	12.9		None - boring in underground utility corridor	None	None	None
5X21_5XT	4.3	11.9	12.9		None - boring in underground utility corridor	None	None	None
5X21_5XU	4.6	11.8	12.8		None - boring in underground utility corridor	None	None	None
5X21_5XV	5	11.7	12.7		None - boring in underground utility corridor	None	None	None
5X21_5XW	5.3	11.5	12.5		None - boring in underground utility corridor	None	None	None
5X21_5XX	5.7	11.4	12.4		None - boring in underground utility corridor	None	None	None
5X21_5XY	6	11.3	12.3		None - boring in underground utility corridor	None	None	None
5X21_5XZ	6.3	11.2	12.2		None - boring in underground utility corridor	None	None	None
5X21_5XAA	6.1	11.3	12.3		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X21_5XAB	5.5	11.4	12.4		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X21_5XAC	5	11.6	12.6		None - boring in underground utility corridor	None	None	None
5X21_5XAD	4.5	11.8	12.8		None - boring in underground utility corridor	None	None	None
5X21_5XAE	4	11.9	12.9		None - boring in underground utility corridor	None	None	None
5X21_5XAF	3.9	12	13		None - boring in underground utility corridor	None	None	None
5X21_5XAG	3.9	12	13		1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X21_5XAH	4.1	12.3	13.3		1.5-2; 3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X21_5XAI	4.5	13.6	14.6		2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X21_5XAJ	4.9	14.9	15.9		None - boring in underground utility corridor	None	None	None
5X21_5XAK	5.3	16.3	17.3		None - boring in underground utility corridor	None	None	None
5X21_5XAL	5.7	17.6	18.6		None - boring in underground utility corridor	None	None	None
5X21_5XAM	6.1	18.9	19.9		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18; 19.5-20	Soil	PCB; 8082 [5]	Geoprobe
5X21_5XAN	6.5	20.2	21.2		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5; 18-18.5; 20-20.5	Soil	PCB; 8082 [5]	Geoprobe
5X21_5XAO	6.9	21.5	22.5		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17; 18.5-19; 20.5-21; 22.5-23	Soil	PCB; 8082 [5]	Geoprobe
5X21_5XAP	11.1	18.4	19.4		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17; 18.5-19; 20.5-21; 22.5-23	Soil	PCB; 8082 [5]	Geoprobe
5X21_5XAQ	11.7	16.7	17.7		9-9.5; 11-11.5; 13-13.5; 15-15.5; 17-17.5; 19-19.5; 21-21.5	Soil	PCB; 8082 [5]	Geoprobe
5X21_5XAR	9.7	16.6	17.6		9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18; 19.5-20	Soil	PCB; 8082 [5]	Geoprobe
5X21_5XAS	7.6	16.5	17.5		None - boring in underground utility corridor	None	None	None
5X21_5XAT	N/A	N/A	N/A	Nowhere to offset to	None - boring in underground utility corridor	None	None	None
5X21_5XAU	N/A	N/A	N/A		None - boring in underground utility corridor	None	None	None
5X21_5XAV	N/A	N/A	N/A		None - boring in underground utility corridor	None	None	None
5X21_5XAW	N/A	N/A	N/A		None - boring in underground utility corridor	None	None	None

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL[2]	Bottom of LNAPL[2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location[3]	Sample Depths (feet below grade)[4]	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X22_5XI	6.1	10.1	11.1		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
5X22_5XJ	5.9	10.3	11.3		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X22_5XK	5.7	10.4	11.4		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X22_5XL	5.5	10.6	11.6		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X22_5XM	5.2	10.8	11.8		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X22_5XN	5	11	12		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X22_5XO	4.8	11.1	12.1		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13	Soil	PCB; 8082 [5]	Geoprobe
5X22_5XP	4.5	11.3	12.3		None - boring in underground utility corridor	None	None	None
5X22_5XQ	4.4	11.5	12.5		None - boring in underground utility corridor	None	None	None
5X22_5XR	4.2	11.6	12.6		None - boring in underground utility corridor	None	None	None
5X22_5XS	4.1	11.8	12.8		None - boring in underground utility corridor	None	None	None
5X22_5XT	4.3	11.9	12.9		None - boring in underground utility corridor	None	None	None
5X22_5XU	4.6	11.8	12.8		None - boring in underground utility corridor	None	None	None
5X22_5XV	5	11.7	12.7		None - boring in underground utility corridor	None	None	None
5X22_5XW	5.3	11.6	12.6		None - boring in underground utility corridor	None	None	None
5X22_5XX	5.7	11.5	12.5		None - boring in underground utility corridor	None	None	None
5X22_5XY	6	11.3	12.3		None - boring in underground utility corridor	None	None	None
5X22_5XZ	6.3	11.2	12.2		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X22_5XAA	6	11.3	12.3		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X22_5XAB	5.5	11.5	12.5		None - boring in underground utility corridor	None	None	None
5X22_5XAC	5	11.7	12.7		None - boring in underground utility corridor	None	None	None
5X22_5XAD	4.5	11.8	12.8		None - boring in underground utility corridor	None	None	None
5X22_5XAE	4	12	13		None - boring in underground utility corridor	None	None	None
5X22_5XAF	4	12	13		None - boring in underground utility corridor	None	None	None
5X22_5XAG	4.1	12	13		None - boring in underground utility corridor	None	None	None
5X22_5XAH	4.1	12	13		None - boring in underground utility corridor	None	None	None
5X22_5XAI	4.4	12.9	13.9		None - boring in underground utility corridor	None	None	None
5X22_5XAJ	4.8	14.3	15.3		None - boring in underground utility corridor	None	None	None
5X22_5XAK	5.2	15.6	16.6		None - boring in underground utility corridor	None	None	None
5X22_5XAL	5.6	16.9	17.9		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18; 19.5-20	Soil	PCB; 8082 [5]	Geoprobe
5X22_5XAM	6	18.2	19.2		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5; 18-18.5; 20-20.5	Soil	PCB; 8082 [5]	Geoprobe
5X22_5XAN	6.4	19.5	20.5		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5; 16-16.5; 18-18.5; 20-20.5; 22-22.5	Soil	PCB; 8082 [5]	Geoprobe
5X22_5XAO	6.8	20.9	21.9		4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17; 18.5-19; 20.5-21; 22.5-23	Soil	PCB; 8082 [5]	Geoprobe
5X22_5XAP	10.5	18.2	19.2		8.5-9; 10.5-11; 12.5-13; 14.5-15; 16.5-17; 18.5-19; 20.5-21	Soil	PCB; 8082 [5]	Geoprobe
5X22_5XAQ	11.7	16.3	17.3		9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18	Soil	PCB; 8082 [5]	Geoprobe
5X22_5XAR	9.7	16.2	17.2		None - boring in underground utility corridor	None	None	None
5X22_5XAS	7.6	16.1	17.1		None - boring in underground utility corridor	None	None	None
5X22_5XAT	N/A	N/A	N/A		None - boring in underground utility corridor	None	None	None
5X22_5XAU	N/A	N/A	N/A	5X22_5XAS	None - boring in underground utility corridor	Soil	PCB; 8082 [5]	Geoprobe
5X23_5XI	6	10	11		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5	Soil	PCB; 8082 [5]	Geoprobe
5X23_5XJ	5.8	10.2	11.2		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X23_5XK	5.5	10.3	11.3		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X23_5XL	5.3	10.5	11.5		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X23_5XM	5.1	10.7	11.7		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X23_5XN	4.8	10.9	11.9		None - boring in underground utility corridor	None	None	None
5X23_5XO	4.7	11	12		None - boring in underground utility corridor	None	None	None
5X23_5XP	4.5	11.2	12.2		None - boring in underground utility corridor	None	None	None
5X23_5XQ	4.4	11.3	12.3		None - boring in underground utility corridor	None	None	None
5X23_5XR	4.3	11.4	12.4		None - boring in underground utility corridor	None	None	None
5X23_5XS	4.2	11.7	12.7		None - boring in underground utility corridor	None	None	None
5X23_5XT	4.3	12	13		None - boring in underground utility corridor	None	None	None

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL [2]	Bottom of LNAPL [2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location [3]	Sample Depths (feet below grade) [4]	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X23_5XU	4.6	11.9	12.9		None - boring in underground utility corridor	None	None	None
5X23_5XV	5	11.7	12.7		None - boring in underground utility corridor	None	None	None
5X23_5XW	5.3	11.6	12.6		None - boring in underground utility corridor	None	None	None
5X23_5XX	5.7	11.5	12.5		None - boring in underground utility corridor	None	None	None
5X23_5XY	6	11.4	12.4		None - boring in underground utility corridor	None	None	None
5X23_5XZ	6.4	11.2	12.2		None - boring in underground utility corridor	None	None	None
5X23_5XAA	5.9	11.4	12.4		None - boring in underground utility corridor	None	None	None
5X23_5XAB	5.4	11.6	12.6		None - boring in underground utility corridor	None	None	None
5X23_5XAC	4.9	11.7	12.7		None - boring in underground utility corridor	None	None	None
5X23_5XAD	4.4	11.9	12.9		None - boring in underground utility corridor	None	None	None
5X23_5XAE	4.1	12	13		None - boring in underground utility corridor	None	None	None
5X23_5XAF	4.2	12	13		None - boring in underground utility corridor	None	None	None
5X23_5XAG	4.2	12	13		None - boring in underground utility corridor	None	None	None
5X23_5XAH	4.3	12	13		None - boring in underground utility corridor	None	None	None
5X23_5XAI	4.4	12.3	13.3		None - boring in underground utility corridor	None	None	None
5X23_5XAJ	4.8	13.6	14.6		None - boring in underground utility corridor	None	None	None
5X23_5XAK	5.2	14.9	15.9		None - boring in underground utility corridor	None	None	None
5X23_5XAL	5.6	16.2	17.2		None - boring in underground utility corridor	None	None	None
5X23_5XAM	6	17.5	18.5		None - boring in underground utility corridor	None	None	None
5X23_5XAN	6.4	18.9	19.9		None - boring in underground utility corridor	None	None	None
5X23_5XAO	6.8	20.2	21.2		None - boring in underground utility corridor	None	None	None
5X23_5XAP	10	18.1	19.1		None - boring in underground utility corridor	None	None	None
5X23_5XAQ	11.7	15.9	16.9		None - boring in underground utility corridor	None	None	None
5X23_5XAR	9.7	15.8	16.8		None - boring in underground utility corridor	None	None	None
5X23_5XAS	7.6	15.7	16.7		5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18	Soil	PCB; 8082 [5]	Geoprobe
5X23_5XAT	N/A	N/A	N/A	5X23_5XAS	5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18	None	None	None
5X24_5XI	5.8	9.9	10.9		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X24_5XJ	5.6	10.1	11.1		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X24_5XK	5.4	10.3	11.3		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X24_5XL	5.2	10.4	11.4		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X24_5XM	5	10.6	11.6		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X24_5XN	4.9	10.7	11.7		None - boring in underground utility corridor	None	None	None
5X24_5XO	4.7	10.8	11.8		None - boring in underground utility corridor	None	None	None
5X24_5XP	4.6	11	12		None - boring in underground utility corridor	None	None	None
5X24_5XQ	4.4	11.1	12.1		None - boring in underground utility corridor	None	None	None
5X24_5XR	4.4	11.2	12.2		None - boring in underground utility corridor	None	None	None
5X24_5XS	4.4	11.6	12.6		None - boring in underground utility corridor	None	None	None
5X24_5XT	4.4	11.9	12.9		None - boring in underground utility corridor	None	None	None
5X24_5XU	4.7	11.9	12.9		None - boring in underground utility corridor	None	None	None
5X24_5XV	5	11.8	12.8		None - boring in underground utility corridor	None	None	None
5X24_5XW	5.3	11.7	12.7		None - boring in underground utility corridor	None	None	None
5X24_5XX	5.7	11.5	12.5		None - boring in underground utility corridor	None	None	None
5X24_5XY	6	11.4	12.4		None - boring in underground utility corridor	None	None	None
5X24_5XZ	6.3	11.3	12.3		None - boring in underground utility corridor	None	None	None
5X24_5XAA	5.8	11.5	12.5		None - boring in underground utility corridor	None	None	None
5X24_5XAB	5.3	11.6	12.6		None - boring in underground utility corridor	None	None	None
5X24_5XAC	4.8	11.8	12.8		None - boring in underground utility corridor	None	None	None
5X24_5XAD	4.3	12	13		None - boring in underground utility corridor	None	None	None
5X24_5XAE	4.3	12	13		None - boring in underground utility corridor	None	None	None
5X24_5XAF	4.3	12	13		None - boring in underground utility corridor	None	None	None
5X24_5XAG	4.4	12	13		None - boring in underground utility corridor	None	None	None
5X24_5XAH	4.4	12	13		None - boring in underground utility corridor	None	None	None
5X24_5XAI	4.5	12	13		None - boring in underground utility corridor	None	None	None

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL[2]	Bottom of LNAPL[2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location[3]	Sample Depths (feet below grade)[4]	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X24_5XAJ	4.8	12.9	13.9		None - boring in underground utility corridor	None	None	None
5X24_5XAK	5.2	14.2	15.2		None - boring in underground utility corridor	None	None	None
5X24_5XAL	5.6	15.5	16.5		None - boring in underground utility corridor	None	None	None
5X24_5XAM	6	16.9	17.9		None - boring in underground utility corridor	None	None	None
5X24_5XAN	6.4	18.2	19.2		None - boring in underground utility corridor	None	None	None
5X24_5XAO	6.8	19.5	20.5		None - boring in underground utility corridor	None	None	None
5X24_5XAP	9.5	18	19		None - boring in underground utility corridor	None	None	None
5X24_5XAQ	11.7	15.5	16.5		None - boring in underground utility corridor	None	None	None
5X24_5XAR	9.7	15.4	16.4		7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18	Soil	PCB; 8082 [5]	Geoprobe
5X24_5XAS	7.6	15.3	16.3		5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18	Soil	PCB; 8082 [5]	Geoprobe
5X24_5XAT	N/A	N/A	N/A		None - boring in underground utility corridor	None	None	None
5X24_5XAU	N/A	N/A	N/A		None - boring in underground utility corridor	None	None	None
5X24_5XAV	N/A	N/A	N/A	5X24_5XAS	5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18	Soil	PCB; 8082 [5]	Geoprobe
5X25_5XI	5.7	9.8	10.8		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X25_5XJ	5.5	10	11		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X25_5XK	5.4	10.1	11.1		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X25_5XL	5.2	10.2	11.2		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X25_5XM	5.1	10.4	11.4		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X25_5XN	4.9	10.5	11.5		None - boring in underground utility corridor	None	None	None
5X25_5XO	4.8	10.7	11.7		None - boring in underground utility corridor	None	None	None
5X25_5XP	4.6	10.8	11.8		None - boring in underground utility corridor	None	None	None
5X25_5XQ	4.5	10.9	11.9		None - boring in underground utility corridor	None	None	None
5X25_5XR	4.5	11.1	12.1		None - boring in underground utility corridor	None	None	None
5X25_5XS	4.5	11.4	12.4		None - boring in underground utility corridor	None	None	None
5X25_5XT	4.5	11.8	12.8		None - boring in underground utility corridor	None	None	None
5X25_5XU	4.7	11.9	12.9		None - boring in underground utility corridor	None	None	None
5X25_5XV	5	11.8	12.8		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X25_5XW	5.3	11.7	12.7		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X25_5XX	5.7	11.6	12.6		None - boring within structure footprint	None	None	None
5X25_5XY	6	11.4	12.4		None - boring within structure footprint	None	None	None
5X25_5XZ	6.3	11.4	12.4		4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X25_5XAA	5.8	11.5	12.5		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X25_5XAB	5.3	11.7	12.7		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X25_5XAC	4.7	11.9	12.9		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X25_5XAD	4.4	12	13		2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X25_5XAE	4.4	12	13		2-2.5; 4-4.5; 6-6.5; 8-8.5; 10-10.5; 12-12.5; 14-14.5	Soil	PCB; 8082 [5]	Geoprobe
5X25_5XAF	4.5	12	13		None - boring in underground utility corridor	None	None	None
5X25_5XAG	4.5	12	13		None - boring in underground utility corridor	None	None	None
5X25_5XAH	4.6	12	13		None - boring in underground utility corridor	None	None	None
5X25_5XAI	4.6	12	13		None - boring in underground utility corridor	None	None	None
5X25_5XAJ	4.7	12.2	13.2		None - boring in underground utility corridor	None	None	None
5X25_5XAK	5.1	13.5	14.5		None - boring in underground utility corridor	None	None	None
5X25_5XAL	5.5	14.9	15.9		None - boring in underground utility corridor	None	None	None
5X25_5XAM	5.9	16.2	17.2		None - boring in underground utility corridor	None	None	None
5X25_5XAN	6.3	17.5	18.5		None - boring in underground utility corridor	None	None	None
5X25_5XAO	6.7	18.8	19.8		None - boring in underground utility corridor	None	None	None
5X25_5XAP	9	17.9	18.9		None - boring in underground utility corridor	None	None	None
5X25_5XAQ	11.4	15.2	16.2		None - boring in underground utility corridor	None	None	None
5X25_5XAR	9.7	15	16		7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18	Soil	PCB; 8082 [5]	Geoprobe
5X25_5XAS	7.6	14.9	15.9		5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18	Soil	PCB; 8082 [5]	Geoprobe
5X25_5XAT	6.2	14.7	15.7		None - boring in underground utility corridor	None	None	None

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL [2]	Bottom of LNAPL [2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location [3]	Sample Depths (feet below grade) [4]	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X25_5XAU	N/A	N/A	N/A		None - boring in underground utility corridor	None	None	None
5X25_5XAV	N/A	N/A	N/A	5X25_5XAS	5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18	Soil	PCB; 8082 [5]	Geoprobe
5X26_5XI	5.7	9.6	10.6		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X26_5XJ	5.5	9.8	10.8		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X26_5XK	5.4	9.9	10.9		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
5X26_5XL	5.2	10.1	11.1		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X26_5XM	5.1	10.2	11.2		None - boring within structure footprint	None	None	None
5X26_5XN	4.9	10.3	11.3		None - boring within structure footprint	None	None	None
5X26_5XO	4.8	10.5	11.5		None - boring within structure footprint	None	None	None
5X26_5XP	4.6	10.6	11.6		None - boring within structure footprint	None	None	None
5X26_5XQ	4.6	10.7	11.7		None - boring within structure footprint	None	None	None
5X26_5XR	4.6	11	12		None - boring within structure footprint	None	None	None
5X26_5XS	4.6	11.3	12.3		None - boring within structure footprint	None	None	None
5X26_5XT	4.6	11.7	12.7		None - boring within structure footprint	None	None	None
5X26_5XU	4.7	12	13		None - boring within structure footprint	None	None	None
5X26_5XV	5	11.9	12.9		None - boring within structure footprint	None	None	None
5X26_5XW	5.3	11.7	12.7		None - boring within structure footprint	None	None	None
5X26_5XX	5.7	11.6	12.6		None - boring within structure footprint	None	None	None
5X26_5XY	6	11.5	12.5		None - boring within structure footprint	None	None	None
5X26_5XZ	6.2	11.4	12.4		None - boring within structure footprint	None	None	None
5X26_5XAA	5.7	11.6	12.6		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X26_5XAB	5.2	11.8	12.8		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X26_5XAC	4.7	11.9	12.9		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X26_5XAD	4.5	12	13		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X26_5XAE	4.6	12	13		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X26_5XAF	4.6	12	13		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X26_5XAG	4.7	12	13		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X26_5XAH	4.7	12	13		None - boring in underground utility corridor	None	None	None
5X26_5XAI	4.8	12	13		None - boring in underground utility corridor	None	None	None
5X26_5XAJ	4.8	12	13		None - boring in underground utility corridor	None	None	None
5X26_5XAK	5.1	12.9	13.9		None - boring in underground utility corridor	None	None	None
5X26_5XAL	5.5	14.2	15.2		None - boring in underground utility corridor	None	None	None
5X26_5XAM	5.9	15.5	16.5		None - boring in underground utility corridor	None	None	None
5X26_5XAN	6.3	16.8	17.8		None - boring in underground utility corridor	None	None	None
5X26_5XAO	6.7	18.1	19.1		None - boring in underground utility corridor	None	None	None
5X26_5XAP	8.5	17.8	18.8		None - boring in underground utility corridor	None	None	None
5X26_5XAQ	11.1	14.9	15.9		None - boring in underground utility corridor	None	None	None
5X26_5XAR	9.7	14.6	15.6		7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16; 17.5-18	Soil	PCB; 8082 [5]	Geoprobe
5X26_5XAS	7.6	14.5	15.5		5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16	Soil	PCB; 8082 [5]	Geoprobe
5X26_5XAT	6.3	14.3	15.3		None - boring in underground utility corridor	None	None	None
5X26_5XAU	N/A	N/A	N/A		None - boring in underground utility corridor	None	None	None
5X26_5XAV	N/A	N/A	N/A	5X26_5XAS	5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16	Soil	PCB; 8082 [5]	Geoprobe
5X27_5XI	5.7	9.5	10.5		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X27_5XJ	5.6	9.6	10.6		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X27_5XK	5.4	9.7	10.7		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
5X27_5XL	5.3	9.9	10.9		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
5X27_5XM	5.1	10	11		None - boring within structure footprint	None	None	None
5X27_5XN	5	10.2	11.2		None - boring within structure footprint	None	None	None
5X27_5XO	4.8	10.3	11.3		None - boring within structure footprint	None	None	None
5X27_5XP	4.7	10.4	11.4		None - boring within structure footprint	None	None	None
5X27_5XQ	4.7	10.5	11.5		None - boring within structure footprint	None	None	None

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL [2]	Bottom of LNAPL [2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location [3]	Sample Depths (feet below grade) [4]	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X27_5XR	4.7	10.8	11.8		None - boring within structure footprint	None	None	None
5X27_5XS	4.7	11.2	12.2		None - boring within structure footprint	None	None	None
5X27_5XT	4.7	11.6	12.6		None - boring within structure footprint	None	None	None
5X27_5XU	4.7	11.9	12.9		None - boring within structure footprint	None	None	None
5X27_5XV	5	11.9	12.9		None - boring within structure footprint	None	None	None
5X27_5XW	5.4	11.8	12.8		None - boring within structure footprint	None	None	None
5X27_5XX	5.7	11.6	12.6		None - boring within structure footprint	None	None	None
5X27_5XY	6	11.5	12.5		None - boring within structure footprint	None	None	None
5X27_5XZ	6.1	11.5	12.5		None - boring within structure footprint	None	None	None
5X27_5XAA	5.6	11.7	12.7		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X27_5XAB	5.1	11.8	12.8		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5; 13-13.5	Soil	PCB; 8082 [5]	Geoprobe
5X27_5XAC	4.6	12	13		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X27_5XAD	4.7	12	13		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X27_5XAE	4.7	12	13		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X27_5XAF	4.8	12	13		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X27_5XAG	4.8	12	13		2.5-3; 4.5-5; 6.5-7; 8.5-9; 10.5-11; 12.5-13; 14.5-15	Soil	PCB; 8082 [5]	Geoprobe
5X27_5XAH	4.9	12	13		None - boring in underground utility corridor	None	None	None
5X27_5XAI	4.9	12	13		None - boring in underground utility corridor	None	None	None
5X27_5XAJ	5	12	13		None - boring in underground utility corridor	None	None	None
5X27_5XAK	5.1	12.2	13.2		None - boring in underground utility corridor	None	None	None
5X27_5XAL	5.5	13.5	14.5		None - boring in underground utility corridor	None	None	None
5X27_5XAM	5.9	14.8	15.8		None - boring in underground utility corridor	None	None	None
5X27_5XAN	6.3	16.1	17.1		None - boring in underground utility corridor	None	None	None
5X27_5XAO	6.7	17.5	18.5		None - boring in underground utility corridor	None	None	None
5X27_5XAP	8	17.6	18.6		None - boring in underground utility corridor	None	None	None
5X27_5XAQ	10.8	14.7	15.7		None - boring in underground utility corridor	None	None	None
5X27_5XAR	9.6	14.2	15.2		None - boring in underground utility corridor	None	None	None
5X27_5XAS	7.6	14.1	15.1		None - boring in underground utility corridor	None	None	None
5X27_5XAT	6.4	13.9	14.9		None - boring in underground utility corridor	None	None	None
5X27_5XAU	N/A	N/A	N/A		None - boring in underground utility corridor	None	None	None
5X27_5XAV	N/A	N/A	N/A	5X27_5XAT	None - boring in underground utility corridor	None	None	None
5X27_5XAW	N/A	N/A	N/A		None - boring in underground utility corridor	None	None	None
5X28_5XI	5.7	9.3	10.3		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X28_5XJ	5.6	9.4	10.4		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X28_5XK	5.5	9.6	10.6		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X28_5XL	5.3	9.7	10.7		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
5X28_5XM	5.2	9.8	10.8		None - boring within structure footprint	None	None	None
5X28_5XN	5	10	11		None - boring within structure footprint	None	None	None
5X28_5XO	4.9	10.1	11.1		None - boring within structure footprint	None	None	None
5X28_5XP	4.8	10.2	11.2		None - boring within structure footprint	None	None	None
5X28_5XQ	4.8	10.4	11.4		None - boring within structure footprint	None	None	None
5X28_5XR	4.8	10.7	11.7		None - boring within structure footprint	None	None	None
5X28_5XS	4.8	11.1	12.1		None - boring within structure footprint	None	None	None
5X28_5XT	4.8	11.5	12.5		None - boring within structure footprint	None	None	None
5X28_5XU	4.8	11.8	12.8		None - boring within structure footprint	None	None	None
5X28_5XV	5	11.9	12.9		None - boring within structure footprint	None	None	None
5X28_5XW	5.4	11.8	12.8		None - boring within structure footprint	None	None	None
5X28_5XX	5.7	11.7	12.7		None - boring within structure footprint	None	None	None
5X28_5XY	6	11.6	12.6		None - boring within structure footprint	None	None	None
5X28_5XZ	6.1	11.6	12.6		None - boring within structure footprint	None	None	None
5X28_5XAA	5.5	11.7	12.7		None - boring in underground utility corridor	None	None	None
5X28_5XAB	5	11.9	12.9		None - boring in underground utility corridor	None	None	None

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL [2]	Bottom of LNAPL [2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location [3]	Sample Depths (feet below grade) [4]	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X28_5XAC	4.7	12	13		None - boring in underground utility corridor	None	None	None
5X28_5XAD	4.8	12	13		None - boring in underground utility corridor	None	None	None
5X28_5XAE	4.9	12	13		None - boring in underground utility corridor	None	None	None
5X28_5XAF	4.9	12	13		None - boring in underground utility corridor	None	None	None
5X28_5XAG	5	12	13		None - boring in underground utility corridor	None	None	None
5X28_5XAH	5	12	13		None - boring in underground utility corridor	None	None	None
5X28_5XAI	5.1	12	13		None - boring in underground utility corridor	None	None	None
5X28_5XAJ	5.1	12	13		None - boring in underground utility corridor	None	None	None
5X28_5XAK	5.2	12	13		None - boring in underground utility corridor	None	None	None
5X28_5XAL	5.4	12.8	13.8		None - boring in underground utility corridor	None	None	None
5X28_5XAM	5.8	14.1	15.1		None - boring in underground utility corridor	None	None	None
5X28_5XAN	6.2	15.5	16.5		None - boring in underground utility corridor	None	None	None
5X28_5XAO	6.6	16.8	17.8		None - boring in underground utility corridor	None	None	None
5X28_5XAP	7.6	17.4	18.4		None - boring in underground utility corridor	None	None	None
5X28_5XAQ	10.5	14.4	15.4		None - boring in underground utility corridor	None	None	None
5X28_5XAR	9.6	13.8	14.8		None - boring in underground utility corridor	None	None	None
5X28_5XAS	7.6	13.7	14.7		None - boring in underground utility corridor	None	None	None
5X28_5XAT	6.6	13.5	14.5		None - boring in underground utility corridor	None	None	None
5X28_5XAU	N/A	N/A	N/A	Nowhere to offset to	None - boring in underground utility corridor	None	None	None
5X28_5XAV	N/A	N/A	N/A		None - boring in underground utility corridor	None	None	None
5X28_5XAW	N/A	N/A	N/A		None - boring in underground utility corridor	None	None	None
5X29_5XI	5.8	9.1	10.1		None - boring in underground utility corridor	None	None	None
5X29_5XJ	5.6	9.2	10.2		None - boring in underground utility corridor	None	None	None
5X29_5XK	5.5	9.4	10.4		None - boring in underground utility corridor	None	None	None
5X29_5XL	5.3	9.5	10.5		None - boring in underground utility corridor	None	None	None
5X29_5XM	5.2	9.7	10.7		None - boring in underground utility corridor	None	None	None
5X29_5XN	5	9.8	10.8		None - boring in underground utility corridor	None	None	None
5X29_5XO	4.9	9.9	10.9		None - boring within structure footprint	None	None	None
5X29_5XP	4.9	10	11		None - boring within structure footprint	None	None	None
5X29_5XQ	4.9	10.2	11.2		None - boring within structure footprint	None	None	None
5X29_5XR	4.9	10.6	11.6		None - boring within structure footprint	None	None	None
5X29_5XS	4.9	11	12		None - boring within structure footprint	None	None	None
5X29_5XT	4.9	11.3	12.3		None - boring within structure footprint	None	None	None
5X29_5XU	4.9	11.7	12.7		None - boring within structure footprint	None	None	None
5X29_5XV	5	12	13		None - boring within structure footprint	None	None	None
5X29_5XW	5.4	11.9	12.9		None - boring in underground utility corridor	None	None	None
5X29_5XX	5.7	11.7	12.7		None - boring in underground utility corridor	None	None	None
5X29_5XY	6.1	11.6	12.6		None - boring in underground utility corridor	None	None	None
5X29_5XZ	6	11.6	12.6		None - boring in underground utility corridor	None	None	None
5X29_5XAA	5.5	11.8	12.8		None - boring in underground utility corridor	None	None	None
5X29_5XAB	5	12	13		None - boring in underground utility corridor	None	None	None
5X29_5XAC	4.9	12	13		None - boring in underground utility corridor	None	None	None
5X29_5XAD	4.9	12	13		None - boring in underground utility corridor	None	None	None
5X29_5XAE	5	12	13		None - boring within structure footprint	None	None	None
5X29_5XAF	5.1	12	13		None - boring within structure footprint	None	None	None
5X29_5XAG	5.1	12	13		None - boring within structure footprint	None	None	None
5X29_5XAH	5.2	12	13		None - boring within structure footprint	None	None	None
5X29_5XAI	5.2	12	13		None - boring within structure footprint	None	None	None
5X29_5XAJ	5.3	12	13		None - boring within structure footprint	None	None	None
5X29_5XAK	5.3	12	13		None - boring within structure footprint	None	None	None
5X29_5XAL	5.4	12.1	13.1		None - boring within structure footprint	None	None	None
5X29_5XAM	5.8	13.5	14.5		None - boring within structure footprint	None	None	None
5X29_5XAN	6.2	14.8	15.8		None - boring within structure footprint	None	None	None
5X29_5XAO	6.6	16.1	17.1		None - boring within structure footprint	None	None	None

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL [2]	Bottom of LNAPL [2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location [3]	Sample Depths (feet below grade) [4]	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X29_5XAP	7.2	17.2	18.2		None - boring within structure footprint	None	None	None
5X29_5XAQ	10.1	14.2	15.2		None - boring within structure footprint	None	None	None
5X29_5XAR	9.6	13.4	14.4		None - boring within structure footprint	None	None	None
5X29_5XAS	7.6	13.3	14.3		5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16	Soil	PCB; 8082 [5]	Geoprobe
5X29_5XAT	6.7	13	14		None - boring in underground utility corridor	None	None	None
5X29_5XAU	N/A	N/A	N/A		None - boring in underground utility corridor	None	None	None
5X29_5XAV	N/A	N/A	N/A	5X29_5XAT	None - boring in underground utility corridor	None	None	None
5X30_5XI	5.8	8.9	9.9		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X30_5XJ	5.7	9.1	10.1		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X30_5XK	5.5	9.2	10.2		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X30_5XL	5.4	9.4	10.4		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
5X30_5XM	5.2	9.5	10.5		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
5X30_5XN	5.1	9.6	10.6		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
5X30_5XO	5	9.7	10.7		None - boring within structure footprint	None	None	None
5X30_5XP	5	9.8	10.8		None - boring within structure footprint	None	None	None
5X30_5XQ	5	10.1	11.1		None - boring within structure footprint	None	None	None
5X30_5XR	5	10.5	11.5		None - boring within structure footprint	None	None	None
5X30_5XS	5	10.9	11.9		None - boring within structure footprint	None	None	None
5X30_5XT	5.1	11.2	12.2		None - boring within structure footprint	None	None	None
5X30_5XU	5.1	11.6	12.6		None - boring within structure footprint	None	None	None
5X30_5XV	5.1	12	13		None - boring within structure footprint	None	None	None
5X30_5XW	5.4	11.9	12.9		None - boring within structure footprint	None	None	None
5X30_5XX	5.7	11.8	12.8		None - boring within structure footprint	None	None	None
5X30_5XY	6.1	11.6	12.6		None - boring within structure footprint	None	None	None
5X30_5XZ	5.9	11.7	12.7		None - boring within structure footprint	None	None	None
5X30_5XAA	5.4	11.9	12.9		None - boring within structure footprint	None	None	None
5X30_5XAB	5	12	13		None - boring within structure footprint	None	None	None
5X30_5XAC	5	12	13		None - boring within structure footprint	None	None	None
5X30_5XAD	5.1	12	13		None - boring within structure footprint	None	None	None
5X30_5XAE	5.1	12	13		None - boring within structure footprint	None	None	None
5X30_5XAF	5.2	12	13		None - boring within structure footprint	None	None	None
5X30_5XAG	5.2	12	13		None - boring within structure footprint	None	None	None
5X30_5XAH	5.3	12	13		None - boring within structure footprint	None	None	None
5X30_5XAI	5.4	12	13		None - boring within structure footprint	None	None	None
5X30_5XAJ	5.4	12	13		None - boring within structure footprint	None	None	None
5X30_5XAK	5.5	12	13		None - boring within structure footprint	None	None	None
5X30_5XAL	5.5	12	13		None - boring within structure footprint	None	None	None
5X30_5XAM	5.8	12.8	13.8		None - boring within structure footprint	None	None	None
5X30_5XAN	6.2	14.1	15.1		None - boring within structure footprint	None	None	None
5X30_5XAO	6.6	15.4	16.4		None - boring within structure footprint	None	None	None
5X30_5XAP	7	16.7	17.7		None - boring within structure footprint	None	None	None
5X30_5XAQ	9.8	13.9	14.9		None - boring within structure footprint	None	None	None
5X30_5XAR	9.6	13	14		None - boring within structure footprint	None	None	None
5X30_5XAS	7.6	12.9	13.9		5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14; 15.5-16	Soil	PCB; 8082 [5]	Geoprobe
5X30_5XAT	6.9	12.6	13.6		None - boring in underground utility corridor	None	None	None
5X30_5XAU	N/A	N/A	N/A		None - boring in underground utility corridor	None	None	None
5X30_5XAV	N/A	N/A	N/A	5X30_5XAT	None - boring in underground utility corridor	None	None	None
5X31_5XI	5.8	8.8	9.8		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X31_5XJ	5.7	8.9	9.9		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X31_5XK	5.5	9	10		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 [5]	Geoprobe
5X31_5XL	5.4	9.2	10.2		3-3.5; 5-5.5; 7-7.5; 9-9.5; 11-11.5	Soil	PCB; 8082 [5]	Geoprobe
5X31_5XM	5.3	9.3	10.3		None - boring in underground utility corridor	None	None	None

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location (1)	Top of LNAPL (2)	Bottom of LNAPL (2)	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location (3)	Sample Depths (feet below grade) (4)	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X31_5XN	5.1	9.4	10.4		None - boring in underground utility corridor	None	None	None
5X31_5XO	5.1	9.5	10.5		None - boring within structure footprint	None	None	None
5X31_5XP	5.1	9.6	10.6		None - boring within structure footprint	None	None	None
5X31_5XQ	5.1	10	11		None - boring within structure footprint	None	None	None
5X31_5XR	5.1	10.4	11.4		None - boring within structure footprint	None	None	None
5X31_5XS	5.2	10.7	11.7		None - boring within structure footprint	None	None	None
5X31_5XT	5.2	11.1	12.1		None - boring within structure footprint	None	None	None
5X31_5XU	5.2	11.5	12.5		None - boring within structure footprint	None	None	None
5X31_5XV	5.2	11.8	12.8		None - boring within structure footprint	None	None	None
5X31_5XW	5.4	11.9	12.9		None - boring within structure footprint	None	None	None
5X31_5XX	5.7	11.8	12.8		None - boring within structure footprint	None	None	None
5X31_5XY	6.1	11.7	12.7		None - boring within structure footprint	None	None	None
5X31_5XZ	5.8	11.8	12.8		None - boring within structure footprint	None	None	None
5X31_5XAA	5.3	11.9	12.9		None - boring within structure footprint	None	None	None
5X31_5XAB	5.1	12	13		None - boring within structure footprint	None	None	None
5X31_5XAC	5.2	12	13		None - boring within structure footprint	None	None	None
5X31_5XAD	5.2	12	13		None - boring within structure footprint	None	None	None
5X31_5XAE	5.3	12	13		None - boring within structure footprint	None	None	None
5X31_5XAF	5.3	12	13		None - boring within structure footprint	None	None	None
5X31_5XAG	5.4	12	13		None - boring within structure footprint	None	None	None
5X31_5XAH	5.4	12	13		None - boring within structure footprint	None	None	None
5X31_5XAI	5.5	12	13		None - boring within structure footprint	None	None	None
5X31_5XAJ	5.6	12	13		None - boring within structure footprint	None	None	None
5X31_5XAK	5.6	12	13		None - boring within structure footprint	None	None	None
5X31_5XAL	5.7	12	13		None - boring within structure footprint	None	None	None
5X31_5XAM	5.7	12.1	13.1		None - boring within structure footprint	None	None	None
5X31_5XAN	6.1	13.4	14.4		None - boring within structure footprint	None	None	None
5X31_5XAO	6.5	14.7	15.7		None - boring within structure footprint	None	None	None
5X31_5XAP	6.9	16	17		None - boring within structure footprint	None	None	None
5X31_5XAQ	9.5	13.7	14.7		None - boring within structure footprint	None	None	None
5X31_5XAR	9.6	12.6	13.6		None - boring within structure footprint	None	None	None
5X31_5XAS	7.6	12.5	13.5		None - boring in underground utility corridor	None	None	None
5X31_5XAT	7	12.2	13.2		None - boring in underground utility corridor	None	None	None
5X31_5XAU	N/A	N/A	N/A		None - boring in underground utility corridor	None	None	None
5X31_5XAV	N/A	N/A	N/A	5X31_5XAT	None - boring in underground utility corridor	None	None	None
5X32_5XI	5.9	8.6	9.6		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 (5)	Geoprobe
5X32_5XJ	5.7	8.7	9.7		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 (5)	Geoprobe
5X32_5XK	5.6	8.9	9.9		3.5-4; 5.5-6; 7.5-8; 9.5-10; 11.5-12	Soil	PCB; 8082 (5)	Geoprobe
5X32_5XL	5.4	9	10		None - boring within structure footprint	None	None	None
5X32_5XM	5.3	9.1	10.1		None - boring within structure footprint	None	None	None
5X32_5XN	5.3	9.2	10.2		None - boring within structure footprint	None	None	None
5X32_5XO	5.2	9.2	10.2		None - boring within structure footprint	None	None	None
5X32_5XP	5.2	9.5	10.5		None - boring within structure footprint	None	None	None
5X32_5XQ	5.3	9.9	10.9		None - boring within structure footprint	None	None	None
5X32_5XR	5.3	10.3	11.3		None - boring within structure footprint	None	None	None
5X32_5XS	5.3	10.6	11.6		None - boring within structure footprint	None	None	None
5X32_5XT	5.3	11	12		None - boring within structure footprint	None	None	None
5X32_5XU	5.3	11.4	12.4		None - boring within structure footprint	None	None	None
5X32_5XV	5.3	11.7	12.7		None - boring within structure footprint	None	None	None
5X32_5XW	5.4	12	13		None - boring within structure footprint	None	None	None
5X32_5XX	5.7	11.8	12.8		None - boring within structure footprint	None	None	None
5X32_5XY	6.1	11.7	12.7		None - boring within structure footprint	None	None	None
5X32_5XZ	5.8	11.8	12.8		None - boring within structure footprint	None	None	None

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location [1]	Top of LNAPL[2]	Bottom of LNAPL[2]	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location[3]	Sample Depths (feet below grade)[4]	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X32_5XAA	5.3	12	13		None - boring within structure footprint	None	None	None
5X32_5XAB	5.3	12	13		None - boring within structure footprint	None	None	None
5X32_5XAC	5.3	12	13		None - boring within structure footprint	None	None	None
5X32_5XAD	5.4	12	13		None - boring within structure footprint	None	None	None
5X32_5XAE	5.4	12	13		None - boring within structure footprint	None	None	None
5X32_5XAF	5.5	12	13		None - boring within structure footprint	None	None	None
5X32_5XAG	5.5	12	13		None - boring within structure footprint	None	None	None
5X32_5XAH	5.6	12	13		None - boring within structure footprint	None	None	None
5X32_5XAI	5.6	12	13		None - boring within structure footprint	None	None	None
5X32_5XAJ	5.7	12	13		None - boring within structure footprint	None	None	None
5X32_5XAK	5.8	12	13		None - boring within structure footprint	None	None	None
5X32_5XAL	5.8	12	13		None - boring within structure footprint	None	None	None
5X32_5XAM	5.9	12	13		None - boring within structure footprint	None	None	None
5X32_5XAN	6.1	12.7	13.7		None - boring within structure footprint	None	None	None
5X32_5XAO	6.5	14	15		None - boring within structure footprint	None	None	None
5X32_5XAP	6.9	15.4	16.4		None - boring within structure footprint	None	None	None
5X32_5XAQ	9.2	13.4	14.4		None - boring within structure footprint	None	None	None
5X32_5XAR	9.5	12.3	13.3		None - boring within structure footprint	None	None	None
5X32_5XAS	7.6	12.1	13.1		5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 [5]	Geoprobe
5X32_5XAT	7.1	11.8	12.8		None - boring in underground utility corridor	None	None	None
5X32_5XAU	N/A	N/A	N/A		None - boring in underground utility corridor	None	None	None
5X32_5XAV	N/A	N/A	N/A	5X32_5XAS	5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	None	PCB; 8082 [5]	Geoprobe
5X33_5XI	5.9	8.4	9.4		3.5-4; 5.5-6; 7.5-8; 9.5-10	Soil	PCB; 8082 [5]	Geoprobe
5X33_5XJ	5.8	8.5	9.5		None - boring in underground utility corridor	None	None	None
5X33_5XK	5.6	8.7	9.7		None - boring in underground utility corridor	None	None	None
5X33_5XL	5.5	8.8	9.8		None - boring within structure footprint	None	None	None
5X33_5XM	5.4	8.9	9.9		None - boring within structure footprint	None	None	None
5X33_5XN	5.4	8.9	9.9		None - boring within structure footprint	None	None	None
5X33_5XO	5.3	9	10		None - boring within structure footprint	None	None	None
5X33_5XP	5.4	9.4	10.4		None - boring within structure footprint	None	None	None
5X33_5XQ	5.4	9.8	10.8		None - boring within structure footprint	None	None	None
5X33_5XR	5.4	10.1	11.1		None - boring within structure footprint	None	None	None
5X33_5XS	5.4	10.5	11.5		None - boring within structure footprint	None	None	None
5X33_5XT	5.4	10.9	11.9		None - boring within structure footprint	None	None	None
5X33_5XU	5.4	11.2	12.2		None - boring within structure footprint	None	None	None
5X33_5XV	5.4	11.6	12.6		None - boring within structure footprint	None	None	None
5X33_5XW	5.4	12	13		None - boring within structure footprint	None	None	None
5X33_5XX	5.7	11.9	12.9		None - boring within structure footprint	None	None	None
5X33_5XY	6.1	11.8	12.8		None - boring within structure footprint	None	None	None
5X33_5XZ	5.7	11.9	12.9		None - boring within structure footprint	None	None	None
5X33_5XAA	5.4	12	13		None - boring within structure footprint	None	None	None
5X33_5XAB	5.4	12	13		None - boring within structure footprint	None	None	None
5X33_5XAC	5.5	12	13		None - boring within structure footprint	None	None	None
5X33_5XAD	5.5	12	13		None - boring within structure footprint	None	None	None
5X33_5XAE	5.6	12	13		None - boring within structure footprint	None	None	None
5X33_5XAF	5.6	12	13		None - boring within structure footprint	None	None	None
5X33_5XAG	5.7	12	13		None - boring within structure footprint	None	None	None
5X33_5XAH	5.7	12	13		None - boring within structure footprint	None	None	None
5X33_5XAI	5.8	12	13		None - boring within structure footprint	None	None	None
5X33_5XAJ	5.8	12	13		None - boring within structure footprint	None	None	None
5X33_5XAK	5.9	12	13		None - boring within structure footprint	None	None	None
5X33_5XAL	5.9	12	13		None - boring within structure footprint	None	None	None
5X33_5XAM	6	12	13		None - boring within structure footprint	None	None	None

Table 1B
Post-IRM Confirmation Sampling Program Soil Sample Summary - 5-Foot Grid
Hatco Corporation Site, Fords, New Jersey

Sample Grid Location (1)	Top of LNAPL(2)	Bottom of LNAPL(2)	Bottom of sample interval, assuming average drawdown of 1 foot	Adjacent Boring Location(3)	Sample Depths (feet below grade)(4)	Sample Matrix	Analytical Parameter;Method	Sampling Method
5X33_5XAN	6.1	12.1	13.1		None - boring within structure footprint	None	None	None
5X33_5XAO	6.5	13.4	14.4		None - boring within structure footprint	None	None	None
5X33_5XAP	6.9	14.7	15.7		None - boring within structure footprint	None	None	None
5X33_5XAQ	8.8	13.1	14.1		None - boring within structure footprint	None	None	None
5X33_5XAR	9.2	12	13		None - boring within structure footprint	None	None	None
5X33_5XAS	7.6	11.7	12.7		5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 (5)	Geoprobe
5X33_5XAT	7.3	11.3	12.3		None - boring in underground utility corridor	None	None	None
5X33_5XAU	N/A	N/A	N/A		None - boring in underground utility corridor	None	None	None
5X33_5XAV	N/A	N/A	N/A	5X33_5XAS	5.5-6; 7.5-8; 9.5-10; 11.5-12; 13.5-14	Soil	PCB; 8082 (5)	Geoprobe

NOTES:

(1) Note that sampling locations are proposed based on current understanding of the limits of the LNAPL plume. If evidence of current or former product is observed during post-IRM sampling in an "outermost" sample (above proposed shallowest or below deepest sample proposed for each sampling grid node, or beyond the anticipated bounds of the anticipated horizontal limits of LNAPL, the post-RIM sampling program will be "steeped out" either by depth, by lateral distance, or both, as appropriate to document complete removal of LNAPL.

(2) Feet below grade, based on assessment of historic and 2007 pre-design investigation boring logs. Graphical depiction of top of LNAPL and bottom of LNAPL are provided in Attachment A on Figures A1 and A2.

(3) Adjacent boring is listed only for those borings being sampled beyond the limits of the LNAPL plume. The sample in depths are the same as appropriate for the identified adjacent boring that is located within the limits of the LNAPL plume.

(4) Shallowest post-remedy sample is from the 2-foot interval above top of historic LNAPL. Additional samples are collected at 2-foot intervals until the depth beyond the bottom of LNAPL. Deepest post-remedy sample is from the "next" 2-foot interval below the lowest observed LNAPL depth, to account for potential lowering of the water table during active LNAPL recovery.

(5) All samples collected for PCB, 10% of environmental samples also collected for VOC by Method 8260B and BNs by Method 8270C.

BNA: Base/Neutral e5Xtractable compounds
LNAPL: Light non-aqueous phase liquid
N/A: Top of LNAPL and bottom of LNAPL have not been measured - boring is beyond known limits of LNAPL plume
PCB: Polychlorinated Biphenyls
VOC: Volatile organic compounds
8082: U.S. Environmental Protection Agency SW-842 Method 8082

Table 1C
Post-IRM Confirmation Sampling Program Soil Sample Summary - PCB ≥ 500 ppm in Historic Samples Within LNAPL Area
Hatco Corporation Site, Fords, New Jersey

Historic Sample ID	Historic Sample Depth (feet below grade)	Historic PCB Concentration (mg/kg)	Post-IRM Sample ID	Post-IRM Sample Depth (feet below grade)	Analytical Parameter; Method	Sampling Method
202(J/L 20.5)	0-0.5	510	N/A	Sample located within lagoon; has already been remediated		
B13(M/D 16.25)	1.5-2	1,800	N/A	See Addendum 3 - hot spot excavation X075		
B14(L/M 14.75)	0.5-1	960	N/A	See Addendum 3 - within LNAPL western "leg"		
BLN_B-5	7-7.5	930	N/A	See Addendum 3 - within LNAPL eastern "leg"		
BLN_B-21	2.5-3	570	N/A	Shallower than top of LNAPL plume; will be added to Addendum 3		
CAP_B-31_5N	1.5-2; 2-2.5; 2.5-3	54,000; 76,000; 92,000	N/A	See Addendum 3 - hot spot excavation X002		
CAP_B-31_10N	0-0.5; 1.5-2	630; 2,500	N/A	See Addendum 3 - hot spot excavation X002		
CAP_B-31_10W	0-0.5; 1.5-2	550; 2,150	N/A	See Addendum 3 - hot spot excavation X002		
CAP_B-53_5E	2.5-3	520	N/A	See Addendum 3 - hot spot excavation X080		
CB7	0-0.5; 0-1.2; 0-2	1,200; 540; 1,500	N/A	Beyond limits of LNAPL plume; will be added to Addendum 3 (2)		
CB9	0-0.5; 0-2	1,700; 1,100	N/A	Shallower than top of LNAPL plume; will be added to Addendum 3 (2)		
C9	2-2.5	500	N/A	See Addendum 3 - hot spot excavation X096		
D13	1.5-2	760	N/A	See Addendum 3 - hot spot excavation X083		
I20.5	1-1.5	632	N/A	See Addendum 3 - hot spot excavation X049		
J10	4-4.5	12,000	N/A	See Addendum 3 - hot spot excavation X095		
J12_5W	1.5-2	600	N/A	See Addendum 3 - hot spot excavation X088		
L11	0-0.5	660	N/A	See Addendum 3 - hot spot excavation X095		
L12	0.5-1	640	N/A	See Addendum 3 - hot spot excavation X086		
L13	4-4.5	4,500	N/A	See Addendum 3 - within LNAPL western "leg"		
LN_B-2	6.5-7	800	N/A	See Addendum 3 - hot spot excavation X093		
LN_B-5	9.5-10; 11.5-12	560; 1,400	N/A	See Addendum 3 - within LNAPL eastern "leg"		
LN_B-5_30W	7.5-8	1,200	X_LN_B-5_30W	7.5-8	PCB; 8082 (1)	Geoprobe
LN_B-44	7.5-8; 9-9.5	610; 3,800	X_LN_B-44_AP-AQ; X_LN_B-44_AX_AY	7.5-8; 9-9.5	PCB; 8082 (1)	Geoprobe
M13	4-4.5	2,300	N/A	See Addendum 3 - hot spot excavation X084		
MW-16S	7-7.5	8,600	X_MW-16S	7-7.5	PCB; 8082 (1)	Geoprobe
P13	5.5-6	580	N/A	See Addendum 3 - hot spot excavation X093		
PEC_B-21	5.5-6	1,700	N/A	See Addendum 3 - within LNAPL western "leg"		
PESE_B-57	2-2.5	1,100	N/A	See Addendum 3 - hot spot excavation X042		
PESE_B-60	2-2.5; 2.5-3	1,200; 800	N/A	See Addendum 3 - hot spot excavation X042		
PESE_B-139_5W	2-2.5	1,800	N/A	See Addendum 3 - hot spot excavation X042		
SB212	9.5-10	5,900	N/A	See Addendum 3 - within LNAPL eastern "leg"		
SB262	5.25-5.75	8,300	N/A	See Addendum 3 - hot spot excavation X098		
SB263	4-4.5	2,800	N/A	See Addendum 3 - hot spot excavation X099		
SB270	5.5-6	1,100	N/A	See Addendum 3 - within LNAPL western "leg"		
SB274	5-6; 11.5-12	530; 890	X_SB-274	5-6; 11.5-12	PCB; 8082 (1)	Geoprobe
SB276	5.5-6	500	X_SB-276	5.5-6	PCB; 8082 (1)	Geoprobe
SB278	19-19.5	2,300	X_SB-278	19-19.5	PCB; 8082 (1)	Geoprobe
SB280	16.5-17	2,700	N/A	Sample within footprint of tank farm; not available for sampling		
SB286	5-6	2,300	N/A	See Addendum 3 - hot spot excavation X091		
SB287_5E	5-5.5	1,400	N/A	See Addendum 3 - hot spot excavation X088		
SB287_5N	5-5.5	740	N/A	See Addendum 3 - hot spot excavation X088		
SB290	4.5-5; 8.5-9	1,200; 530	N/A	See Addendum 3 - within LNAPL western "leg"		
SB291	4-5	1,400	N/A	See Addendum 3 - within LNAPL western "leg"		
SB293	4-6	510	N/A	See Addendum 3 - within LNAPL western "leg"		
SB303	5.5-6	770	N/A	See Addendum 3 - within LNAPL eastern "leg"		
SB422	1.5-2	880	N/A	See Addendum 3 - hot spot excavation X047		
TP3(H 8.75)	8-9	8,300	X_TP-3(H8.75)	8-9	PCB; 8082 (1)	Geoprobe
TP10(H/B 9.25)	7-8	1,600	X_TP-10(H/B9.25)	7-8	PCB; 8082 (1)	Geoprobe
TP11(H/B 10)	5-6	9,500	X_TP-11(H/B10)	5-6	PCB; 8082 (1)	Geoprobe
TP18(K/C 14.25)	3-4	2,600	N/A	See Addendum 3 - hot spot excavation X090		
TP29(J/L 15.75)	1-2	510	N/A	See Addendum 3 - within LNAPL western "leg"		
TP32(M 15.75)	0-4.5	3,200	N/A	See Addendum 3 - within LNAPL western "leg"		
TP33(L/M 16.5)	0.5-1.5	4,900	N/A	See Addendum 3 - hot spot excavation X066		
TP38(L/M 14.25)	0-4	930	N/A	See Addendum 3 - within LNAPL western "leg"		

NOTES:
(1) All samples collected for PCB. 10% of environmental samples also collected for VOC by Method 8260B and BNs by Method 8270C.
(2) Currently evaluating historic site activity reports to determine if these exceedances are still present at the site, or were previously remediated. If previously remediated, will not add to Addendum 3.
BN: Base/Neutral extractable compounds
LNAPL: Light non-aqueous phase liquid
PCB: Polychlorinated Biphenyls
VOC: Volatile organic compounds
8082: U.S. Environmental Protection Agency SW-842 Method 8082

TABLE 2
Analytical Methods, and Container and Preservation Requirements
Post-IRM Confirmation Sampling Program

Analytical Parameters	Matrix	Preparation Method	Analysis Method	Container	Preservation	Holding Time[1]
Post-IRM Soil Sampling Program						
Polychlorinated Biphenyls (PCBs)	Soil	SW-846 3540C/3550C	SW-846 8082	4 oz glass	Cool to 4°C	14 days to extraction; 40 days from extraction to analysis
PCBs	Aqueous (Field Blank)	SW-846 3540C/3550C	SW-846 8082	1L Amber 1L DI Water	Cool to 4°C	14 days to extraction; 40 days from extraction to analysis
Volatile Organic Compounds (VOCs)	Soil	None	SW-846 8260B	Three 5-g EnCore samplers	Cool to 4°C	48 hours preparation (freeze); 14 days from preparation to analysis
VOCs	Aqueous (Field Blank)	None	SW-846 8260B	Three 40-mL vials with septum cap, no headspace	HCl to pH <2 Cool to 4°C	14 days (7 days unpreserved)
Base/Neutral Extractable Compounds (BNs)	Soil	SW-846 3550C	SW-846 8270C	One 4-oz glass	Cool to 4°C	14 days to extraction; 14 days from extraction to analysis
BNs	Aqueous (Field Blank)	SW-846 3550C	SW-846 8270C	Two 1L Amber glass	Cool to 4°C	14 days to extraction, 40 days from extraction to analysis
LNAPL/Groundwater Effluent Sampling Program [2]						
Volatile Organic Compounds (VOCs)	Aqueous	None	40 CFR 136 Method 624	Three 40-mL VO vial with septa cap, no headspace	HCl to pH<2 Cool to 4°C	14 days
Base-Neutral Extractable Compounds (BNAs)	Aqueous	None	40 CFR 136 Method 625	Two 1-L amber glass	Cool to 4°C	7 days to extraction; 40 days from extraction to analysis
PCBs	Aqueous	None	40 CFR 136 Method 625	Two 1-L amber glass	Cool to 4°C	7 days to extraction; 40 days from extraction to analysis
Arsenic, Iron, Manganese, Cadmium	Aqueous	None	Method for Chemical Analysis of Water and Waste (MCAWW) 200.7	1-L polyethylene	HNO_3 to pH<2 Cool to 4°C	6 months
pH	Aqueous	None	MCAWW 150.2	250-mL polyethylene	Cool to 4°C	Immediately
Chemical Oxygen Demand (COD)	Aqueous	None	MCAWW EPA 410.4	100 mL polyethylene or glass	H_2SO_4 to pH<2 Cool to 4°C	28 days
Biological Oxygen Demand (BOD)	Aqueous	None	Standard Methods 5210B	500 mL polyethylene or glass	Cool to 4°C	48 hours
TSS	Aqueous	None	Standard Methods 2540D	500 mL polyethylene or glass	Cool to 4°C	7 days

Notes can be found at end of Table 2

TABLE 2 (Continued)
Analytical Methods, Container, and Preservation Requirements
Post-IRM Confirmation Sampling Program
Hatco Site

Analytical Parameters	Matrix	Preparation Method	Analysis Method	Container	Preservation	Holding Time[1]
Waste Classification [3]						
Toxicity Characteristic Leaching Procedure (TCLP) VOCs	Solid	SW-846 1311	SW-846 8260B	4-oz wide-mouth with septa cap, packed full	Cool 4°C	14 days to leaching; 14 days from leaching to analysis
TCLP BNAs	Solid	SW-846 1311	SW-846 8270C	250 mL amber glass	Cool 4°C	14 days to leaching; 7 days from leaching to extraction; 40 days from extraction to analysis
TCLP Pesticides	Solid	SW-846 1311	SW-846 8081	8 oz amber glass	Cool 4°C	14 days to leaching; 7 days from leaching to extraction; 40 days from extraction to analysis
TCLP Herbicides	Solid	SW-846 1311	SW-846 8151	8 oz amber glass	Cool 4°C	14 days to leaching; 7 days from leaching to extraction; 40 days from extraction to analysis
TCLP Metals	Solid	SW-846 1311	SW-846 6010B (7471 for mercury)	250 mL amber glass	Cool 4°C	Mercury: 28 days to TCLP extraction; 28 days from TCLP extraction to determinative analysis. Others: 180 days to TCLP extraction; 180 days from TCLP extraction to determinative analysis
Paint Filter test	Solid	None	SW-846 9095A	8 oz glass	Cool to 4°C	None
Reactive-Cyanide	Solid	None	SW-846 Chapter 7 Section 7.3.3	8 oz glass	Cool to 4°C	None
Reactive-Sulfide	Solid	None	SW-846 Chapter 7 Section 7.3.4	8 oz glass	Cool to 4°C	None
Ignitability	Solid	None	SW-846 1010A	8 oz-glass	Cool to 4°C	None
Corrosivity	Solid	None	SW-846 9045D	8 oz-glass	Cool to 4°C	None
Petroleum Hydrocarbons	Solid	None	Diesel Range Organics by 8015	Two 8-oz glass	Cool to 4°C	14 days to extraction; 40 days from extraction to analysis
PCBs	Solid	SW-846 3540C/3550C	SW-846 8082	4 oz glass	Cool to 4°C	14 days to extraction; 40 days from extraction to analysis

Notes:
(1) - Holding time begins with the date of collection.
(2) - Preliminary list of parameters; information will be finalized based on MCUA Discharge Permit requirements.
(3) - Preliminary list of parameters; information will be finalized based on requirements of selected disposal facility.
* - Clay type soil samples or other large particle size solid matrices which are difficult to put into narrow mouth containers, should be collected in 250 mL wide mouth glass jars.

TABLE 3
Summary of Field QC Samples
Post-IRM Confirmation Sampling Program
Hatco Site

Analytical Parameter	Investigation Samples	No. of Field Duplicate[1]	No. of MS/MSD[1]	No. of Field Blank[2]	Estimated No. of Total Investigation Samples
Post-IRM Soil Sampling Program					
PCBs	4,812	241	241	TBD	5,294
VOCs	482	25	25	TBD	532
BNs	482	25	25	TBD	532
LNAPL/Groundwater Effluent Sampling Program (3)					
VOCs	See Note 3	See Note 1	See Note 1	N/A	See Note 3
BNAs	See Note 3	See Note 1	See Note 1	N/A	See Note 3
PCBs	See Note 3	See Note 1	See Note 1	N/A	See Note 3
Arsenic, Iron, Manganese, Cadmium	See Note 3	See Note 1	See Note 1	N/A	See Note 3
pH	See Note 3	See Note 1	See Note 1	N/A	See Note 3
COD	See Note 3	See Note 1	See Note 1	N/A	See Note 3
BOD	See Note 3	See Note 1	See Note 1	N/A	See Note 3
TSS	See Note 3	See Note 1	See Note 1	N/A	See Note 3
Waste Classification (4)					
TCLP VOCs	5+	N/A	N/A	N/A	5+
TCLP BNAs	5+	N/A	N/A	N/A	5+
TCLP Pesticides	5+	N/A	N/A	N/A	5+
TCLP Herbicides	5+	N/A	N/A	N/A	5+
TCLP Metals	5+	N/A	N/A	N/A	5+
Paint Filter	5+	N/A	N/A	N/A	5+
RCRA Characteristics[5]	5+	N/A	N/A	N/A	5+
Petroleum Hydrocarbons	5+	N/A	N/A	N/A	5+
PCBs (excavated soils)	5+	N/A	N/A	N/A	5+

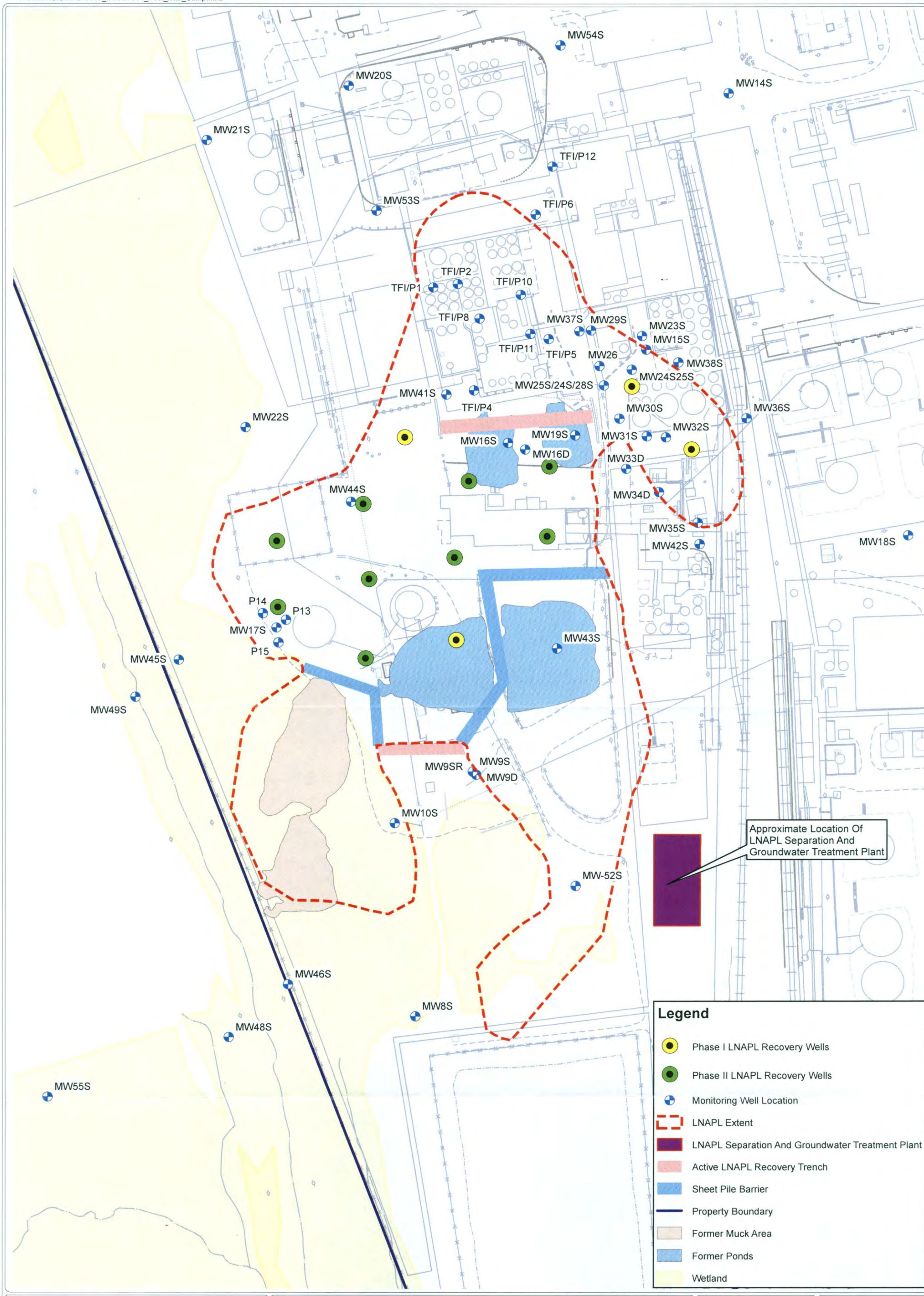
NOTES

1. Estimated field duplicate samples and estimated MS/MSD samples will be collected at a rate of 1 per 20.
2. Estimated Field blank will be collected at a rate of 1 per day for daily per decontamination event.
3. Preliminary list of parameters. Parameters and sampling frequency will be established based on MCUA Discharge Permit requirements. Note that groundwater samples collected to evaluate groundwater condition (and not discharge effluent conditions) will be discussed in Addendum 3 to the RAWP submitted under separate cover and not in this IRM RAWP document.
4. Preliminary list of parameters. Parameters will be finalized based requirements of requirements disposal facility. Number of samples will be finalized based on frequency requirements of disposal facility combined with total amount of waste generated and number of waste streams generated.
5. RCRA Characteristics include: ignitability, corrosivity, reactivity, and toxicity.

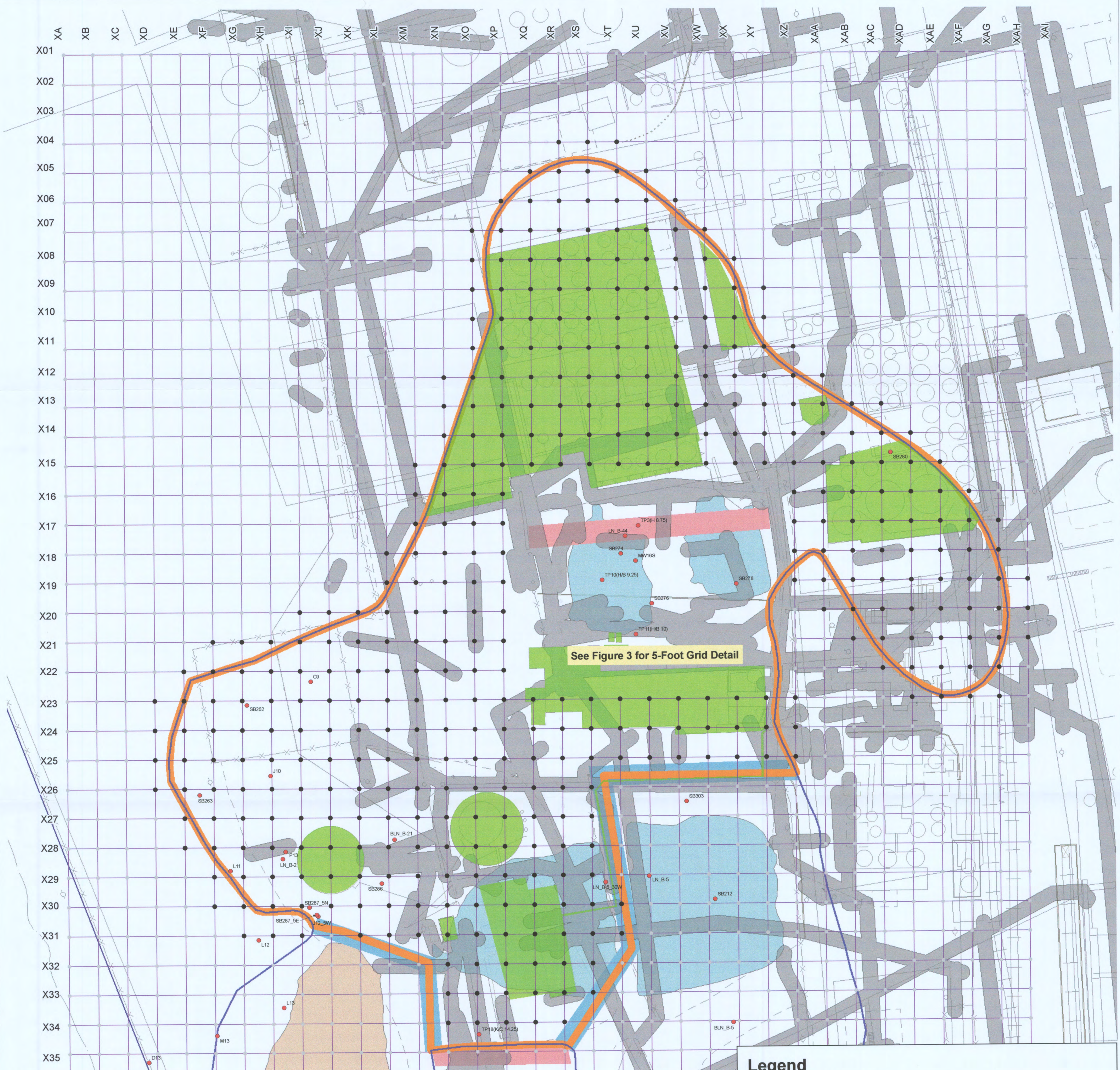
BNs: Base-Neutral Extractable Compounds
BOD: Biological Oxygen Demand
COD: Chemical Oxygen Demand
LNAPL: Light Non-Aqueous Phase Liquid
MCUA: Middlesex County Utilities Authority
MS/MSD: Matrix Spike/Matrix Spike Duplicate
PCBs: Polychlorinated Biphenlys
RCRA: Resource Conservation and Recovery Act
TBD: To be determined
TCLP: Toxicity Characteristic Leaching Procedure
TSS: Total Suspended Solids
VOC: Volatile Organic Compounds

FIGURES

P:\Hatco\GIS\MXD\0809_IRM\07514_Post_IRM_Samp.mxd



LEGEND: 100 50 0 100 Graphic Scale In Feet	TITLE: Post-IRM Confirmation Sampling Program - LNAPL Hatco Site Fords, NJ	DRAWN BY: J. Lynes	N W E S
PROJECT: Interim Remedial Measure		REVIEWED BY: J. Soukup	
		PROJECT MANAGER: D. Kopcow	
		SCALE: 1" = 100'	
CLIENT NAME: Hatco Corporation	DRAWING NUMBER: 07514	FIGURE #: 1	DATE: 1-25-10



Legend

- Samples with 500+ mg/kg total PCBs
- Grid Point (beyond boundary of LNAPL Plume Extent - not being sampled)
- Grid Point Beyond Plume Extent - Not Sampled
- 20 x 20 - Foot Grid
- Building / Structures / Utilities Where Post – Remedy Sampling Is Deferred Until Demo Of Building / Structures / Utilities
- LNAPL Plume Extent
- Limits Of Post-IRM Sampling Program
- Underground Utilities with 5-Foot Buffer
- LNAPL Separation And Groundwater Treatment Plant
- Active LNAPL Recovery Trench
- Sheet Pile Barrier
- Hatco Property Boundary
- Muck Area
- Former Ponds

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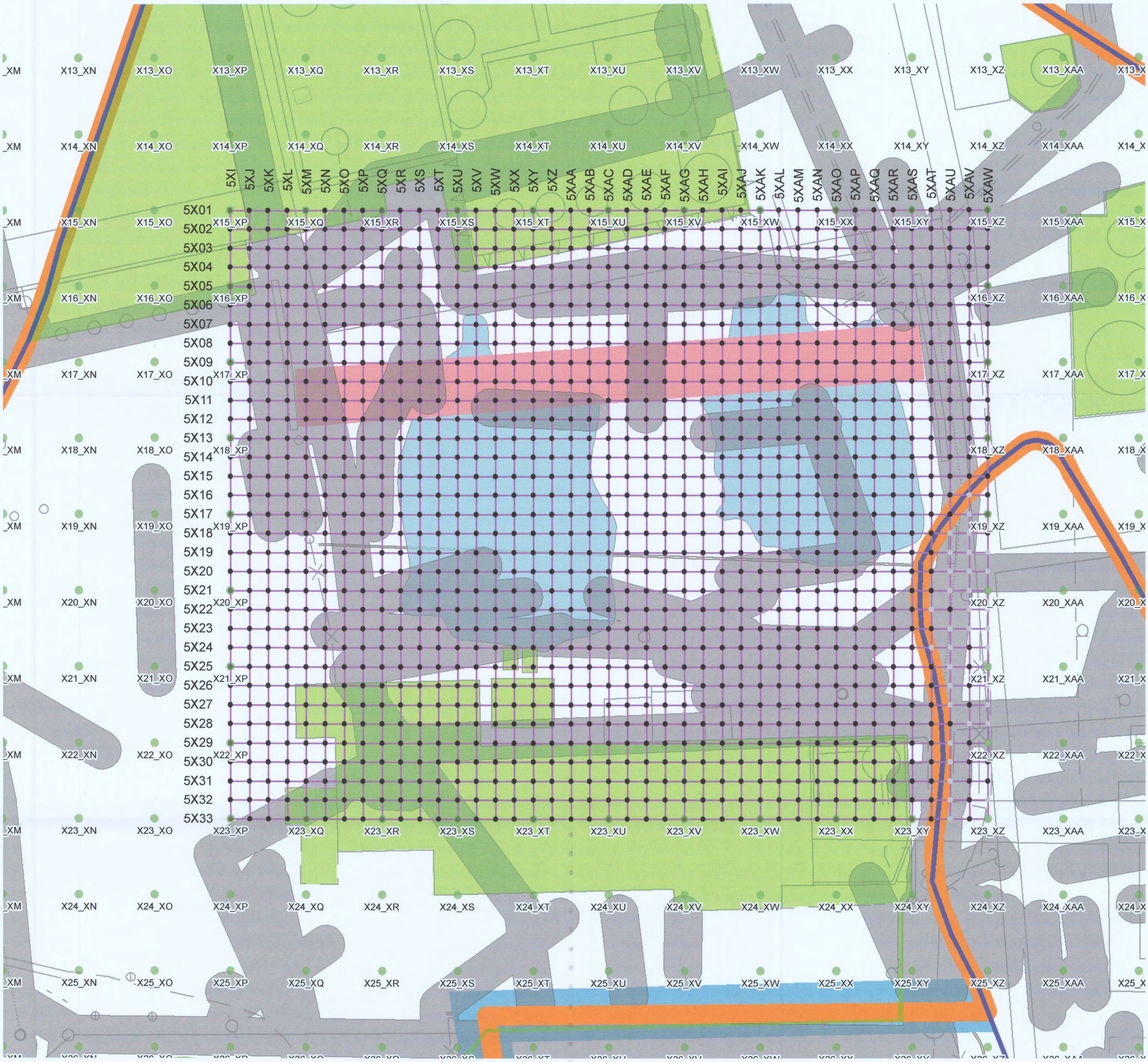
N W E S

REPORT DATE: February 2010	PROJECT MANAGER: D. Kopcow	CLIENT NAME: Weston Solutions Inc.	DRAWING TITLE: Post IRM Confirmation Sampling Program - Soil 20 x 20 - Foot Grid
DRAWING: 07606_Post_IRM_Sampling_Grid_20x20.mxd PATH: P:/Hatco/GIS/MXD/1209_IRM_RAWP_Response/	CHECKED BY: A. Garrison		
REVISION No. 1	CONTRACT No. DELIVERY ORDER NO.	PROJECT NAME: Hatco Remediation	
WORK ORDER No. 13067.001.002.8018	DRAWN/MODIFIED BY: P. Lisichenko DATE CREATED: 02/17/2010		FIGURE: 2 SCALE: 1" = 60' DATE: 02/17/2010



Legend

- 20-Foot Grid Nodes (See Figure 2)
- 5 Foot Grid Point
- 5 Foot Grid Point Beyond Plume Extent - Not Sampled
- 5 x 5 - Foot Grid
- Building / Structures / Utilities Where Post – Remedy Sampling Is Deferred Until Demo Of Building / Structures / Utilities
- LNAPL Plume Extent
- Limits Of Post-IRM Sampling Program
- Underground Utilities with 5-Foot Buffer
- LNAPL Separation And Groundwater Treatment Plant
- Active LNAPL Recovery Trench
- Sheet Pile Barrier
- Hatco Property Boundary
- Former Ponds

20 10 0 20 40
Graphic Scale In Feet

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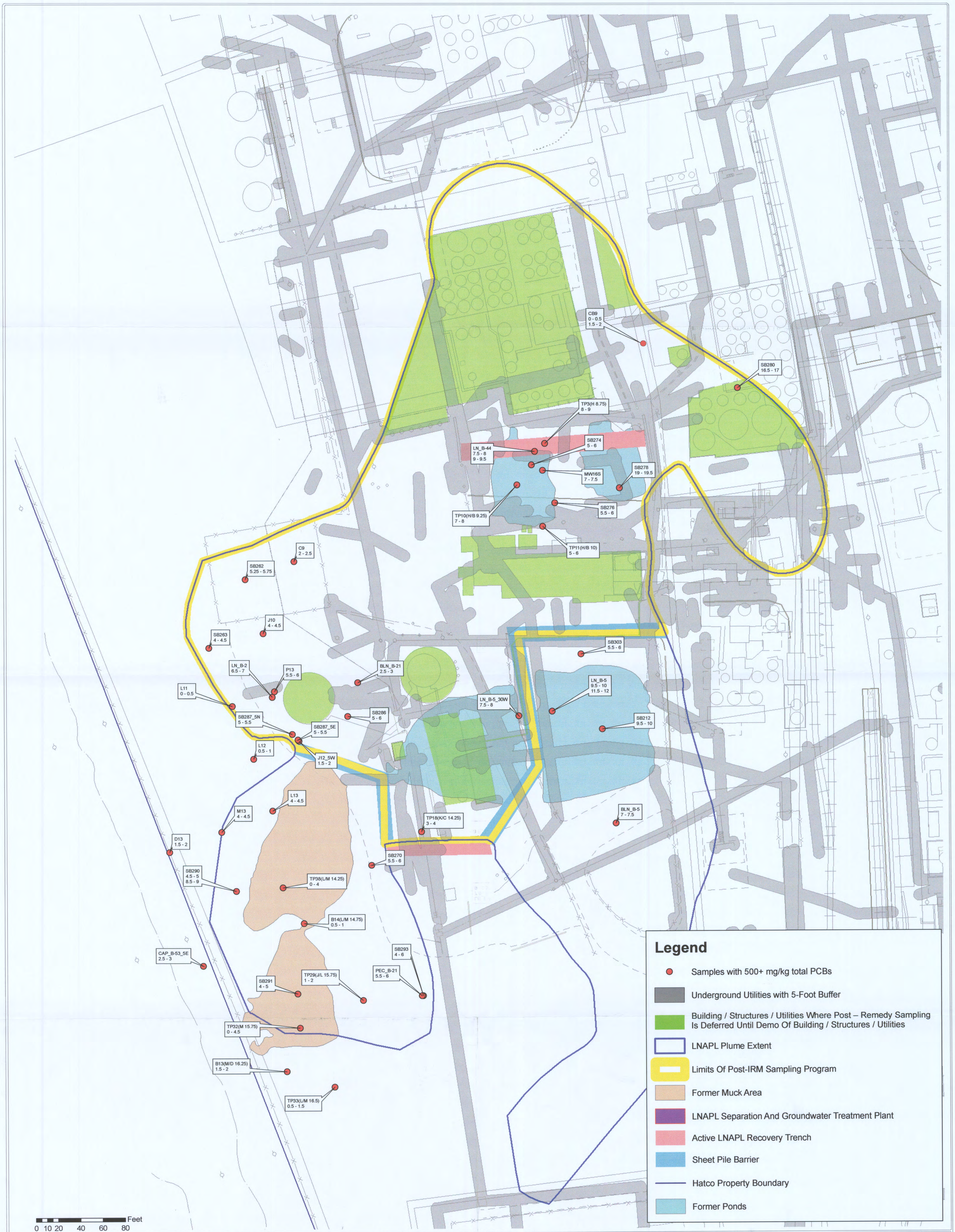
REPORT DATE: February 2010	PROJECT MANAGER: D. Kopcow	CLIENT NAME: Weston Solutions Inc.	DRAWING TITLE: Post IRM Confirmation Sampling Program - Soil 5 x 5 - Foot Grid
DRAWING: 07607_Post_IRM_Sampling_Grid_5x5.mxd PATH: P:/Hatco/GIS/MXD/1209_IRM_RAWP_Response/	CHECKED BY: A. Garrison		
REVISION No. 0	CONTRACT No. DELIVERY ORDER NO.	PROJECT NAME: Hatco Remediation	
WORK ORDER No. 13067.001.002.8018	DRAWN/MODIFIED BY: P. Lisichenko DATE CREATED: 02/19/2010		FIGURE: 3 SCALE: 1" = 20' DATE: 02/19/2010



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REPORT DATE: February 2010	PROJECT MANAGER: D. Kopcow	CLIENT NAME: Weston Solutions Inc.	DRAWING TITLE: Post IRM Confirmation Sampling Program Soil Locations with PCB >= 500 ppm
DRAWING: 07524_Post_IRM_Sampling_Data.mxd PATH: P:/Hatco/GIS/MXD/ 1209_IRM_RAWP_Response/	CHECKED BY: A. Garrison		
REVISION No. 0	CONTRACT No. DELIVERY ORDER NO.	PROJECT NAME: Hatco Remediation	
WORK ORDER No. 13067.001.002.8018	DRAWN/MODIFIED BY: S. Poultney DATE CREATED: 01/12/2010		FIGURE: 4 SCALE: 1" = 40' DATE: 2/22/2010

Legend

- Contour Depth - Major
- Contour Depth - Minor
- 20 x 20 - Foot Grid
- Former Recovery Trench
- Building / Structures / Utilities Where Post – Remedy Sampling Is Deferred Until Demo Of Building / Structures / Utilities
- LNAPL Plume Extent
- Limits Of Post-IRM Sampling Program
- LNAPL Separation And Groundwater Treatment Plant
- Active LNAPL Recovery Trench
- Sheet Pile Barrier
- Hatco Property Boundary
- Muck Area
- Former Ponds

60 30 0 60 120
Graphic Scale In Feet

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REPORT DATE: February 2010	PROJECT MANAGER: D. Kopcow	CLIENT NAME: Weston Solutions Inc.	DRAWING TITLE: Post IRM Confirmation Sampling Program Contour of Depth To Top of LNAPL From Ground Surface
DRAWING: 07479_Post_IRM_Sampling_LNAPL_Top.mxd PATH: P:/Hatco/GIS/MXD/1209_IRM_RAWP_Response/	CHECKED BY: A. Garrison		
REVISION No. 1	CONTRACT No. DELIVERY ORDER NO.	PROJECT NAME: Hatco Remediation	
WORK ORDER No. 13067.001.002.8018	DRAWN/MODIFIED BY: C. Ricks DATE CREATED: 01/12/2010		FIGURE: A1 SCALE: 1" = 60' DATE: 2/22/2010

Legend

- Contour Depth - Major
- Contour Depth - Minor
- 20 x 20 - Foot Grid
- Former Recovery Trench
- Building / Structures / Utilities Where Post – Remedy Sampling Is Deferred Until Demo Of Building / Structures / Utilities
- LNAPL Plume Extent
- Limits Of Post-IRM Sampling Program
- LNAPL Separation And Groundwater Treatment Plant
- Active LNAPL Recovery Trench
- Sheet Pile Barrier
- Hatco Property Boundary
- Muck Area
- Former Ponds

60 30 0 60 120
Graphic Scale In Feet

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REPORT DATE:	February 2010
PROJECT MANAGER:	D. Kopcow
DRAWING:	07481_Post_IRM_Sampling_LNAPL_Bot.mxd PATH: P:/Hatco/GIS/MXD/1209_IRM_RAWP_Response/
CHECKED BY:	A. Garrison
REVISION No.	0
CONTRACT No. / DELIVERY ORDER No.	
WORK ORDER No.	13067.001.002.8018
DRAWN/MODIFIED BY:	C. Ricks
DATE CREATED:	01/10/2010
CLIENT NAME:	Weston Solutions Inc.
PROJECT NAME:	Hatco Remediation
DRAWING TITLE:	Post IRM Confirmation Sampling Program Contour of Depth To Bottom of LNAPL From Ground Surface
FIGURE:	A2
SCALE:	1" = 60'
DATE:	02/22/2010

DRAWING TITLE:

Soil Boring Locations Used to Determine LNAPL Boundary and Contours

FIGURE:	SCALE:	DATE:
A3	1" = 40'	12-11-09

CLIENT NAME: HATCO CORPORATION

PROJECT NAME: HATCO REMEDIATION

N
W
E
S

REPORT DATE: February 2010

DRAWING PATH: 07383_All_SB_121109.mxd P:\Hatco\GIS\MXD\1209_IRM_RAWP_Response\

REVISION No. 0

WORK ORDER No. 13067.001.002.8018

PROJECT MANAGER: D.KOPCOW

CHECKED BY: A. GARRISON

CONTRACT No.

DELIVERY ORDER NO.

DRAWN/MODIFIED BY: S. POULTNEY

DATE CREATED: 12-11-09

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